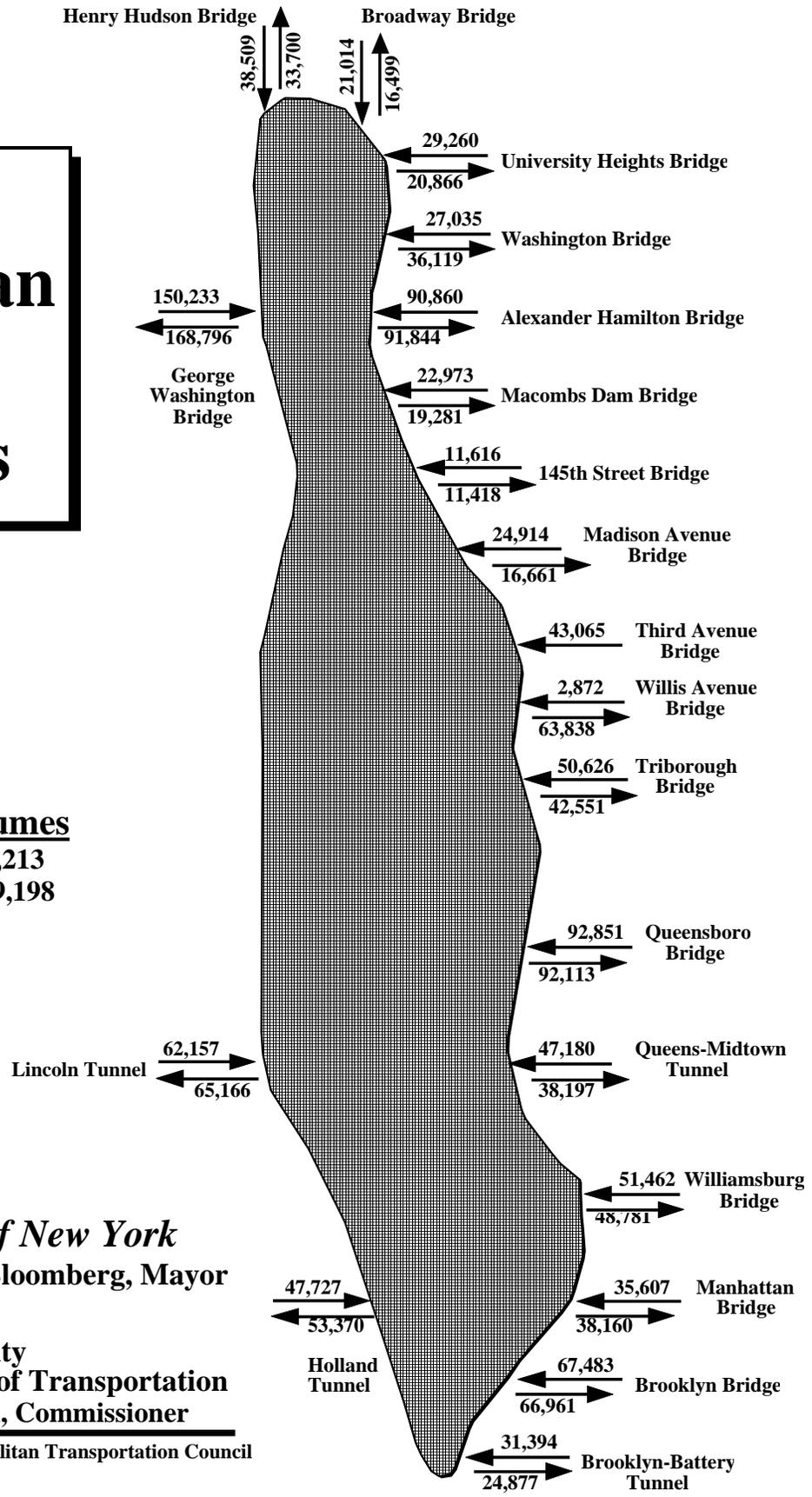


# 2003 Manhattan River Crossings

## 24 Hour Volumes

Inbound = 948,213

Outbound = 949,198



*The City of New York*  
Michael R. Bloomberg, Mayor



New York City  
Department of Transportation  
Iris Weinshall, Commissioner

A member of the New York Metropolitan Transportation Council

February 2005

# **Manhattan River Crossings 2003**

**Contract D000642**

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## INTRODUCTION

Since 1948, the City of New York has been monitoring traffic flow over the 20 bridges and tunnels serving Manhattan. The *Manhattan River Crossings* report, published annually by the New York City Department of Transportation (NYCDOT) since 1972, presents vehicular volumes, classification, and trends for all bridge and tunnel facilities serving Manhattan. All toll-free bridges are monitored with automatic traffic recording (ATR) machines during the fall season.

The average hourly volumes by direction for 2003 are presented in histograms for each facility. Trends were developed from a regression analysis of volumes from 1948 to 2003. The annual growth rate was derived from the linear regression equation that reflects the best fitting straight line. The total vehicular flow to and from Manhattan has been summarized similarly with growth curves, hourly histograms, and a graph of vehicle accumulation in Manhattan. The statistical analysis presented in the report was performed by Subregional Transportation Planning Program staff of NYCDOT during the 2003-2004 and 2004-2005 program years.

NYCDOT extends its appreciation to the Port Authority of New York and New Jersey (PANYNJ) and the Metropolitan Transportation Authority Bridges and Tunnels (MTABT) for their assistance in the data collection process.

# SUMMARY

## 2003 Daily Traffic

- Daily Manhattan River Crossings rose 2.2%, to 1,897,400 in fall 2003 from 1,857,100 in fall 2002, an increase of 40,300 daily vehicles. This was 10.8% more than the depressed level of 1,713,000 daily vehicles recorded in fall 2001 shortly after the events of 9/11/2001, and only 58,100 fewer daily vehicles than the all-time record of 1,955,500 recorded three years earlier during fall 2000.
- During the 7-8 am morning peak hour, 67,500 vehicles entered Manhattan. During the 4-5pm evening peak hour, 63,300 vehicles exited.
- For the 42nd consecutive year, the George Washington Bridge carried more traffic than any other river crossing serving Manhattan. Some 319,000 daily vehicles used this bridge in fall 2003, which was 2.7% more than the average daily volume of 310,800 in fall 2002.
- For the seventh consecutive year, the Queensboro Bridge was the second busiest river crossing, serving 185,000 daily vehicles in fall 2003, which was 4.8% more than the fall 2002 daily volume of 176,400. The Alexander Hamilton Bridge, which had been in second place continuously from 1978 to 1996, was the third busiest, as its daily volume rose 8.7%, to 182,700 in fall 2003 from 168,100 in fall 2002.
- The average automobile entering Manhattan during the morning peak period carried 1.4 persons including the driver. A total of 69% of peak period automobiles were occupied only by the driver.
- The peak accumulation of motor vehicles in Manhattan on an average weekday occurred at about 1 pm when an estimated 354,500 vehicles were either moving or parked on the island. This includes vehicles operating only within Manhattan as well as those entering via the river crossings.

## Recent Trends

- In 2003, Manhattan river crossings increased 2.2% to 1.897 million daily vehicles. Volumes increased on ten of the twenty river crossings.
- The Macombs Dam Bridge had the most dramatic traffic increase of all Manhattan river crossings in 2003, as its daily volume more than doubled, to 42,300 in fall 2003 from 18,900 in fall 2002. This increase represents a return to normal traffic levels. During fall 2002, capacity had been cut in half with one of two lanes in each direction closed round-the-clock for reconstruction.
- Volumes on the East River bridges continued to rebound from the major decline caused by the events of 9/11/2001, which had severely restricted traffic flow into lower Manhattan. Daily traffic on the four East River bridges rose 5.6%, to 493,400 in fall 2003 from 467,100 in fall 2002. This was only 21,400 fewer daily vehicles using the four East River bridges than the 514,800 that had been recorded three years earlier in fall 2000 (prior to the events of 9/11/2001).

- The steepest decline in daily traffic occurred on the 145<sup>th</sup> Street Bridge, where volume decreased by 35.7%, to 23,000 in fall 2003 from 35,800 in fall 2002. This decrease represents a return to normal traffic levels. During fall 2002, major reconstruction was in progress on the nearby Macombs Dam Bridge, causing many motorists to divert to the 145<sup>th</sup> Street Bridge.
- Annual subway ridership citywide decreased 2.1% to 1.384 billion in 2003 from 1.413 billion in 2002.

### **Ten-Year Trends (1993-2003)**

- In the ten-year period from 1993 to 2003, Manhattan traffic volume has risen 9.7%, to 1,897,400 from 1,729,400, an increase of 168,000 daily vehicles.
- Daily vehicle trips entering Manhattan were 8.5% higher in 2003 than in 1993. The biggest increase in inbound trips occurred during the 4-7am period, which rose 25.9% during the decade. Trips leaving Manhattan increased 11.0% since 1993. The biggest outbound increase also occurred during the 4-7am period (+37.9%).
- Vehicle trips on the 13 toll-free East and Harlem River bridges grew at an average annual rate of 0.7% per year from 1993 to 2003. The highest average annual growth rate was on the Madison Avenue Bridge: +8.2% per year. The greatest volume increase occurred on the Queensboro Bridge (49,000 more daily vehicles in 2003 than in 1993). The Macombs Dam Bridge had the highest annual rate of decline: -2.8% per year.
- Traffic volumes on the four MTA Bridges and Tunnels (MTABT) river crossings serving Manhattan increased at an average annual rate of 0.9% per year since 1993. The highest average annual growth rate was on the Henry Hudson Bridge (+2.5% per year), which also had the biggest volume increase (+17,600 vehicles per day).
- Traffic volumes on the three trans-Hudson Port Authority of New York and New Jersey (PANYNJ) river crossings serving Manhattan increased 1.3% per year since 1993. The highest average annual growth rate was at the George Washington Bridge (+2.4% per year), which also had the biggest volume increase (+58,300 vehicles per day).
- New York City motor vehicle registrations increased 0.4% per year. In Manhattan, registrations increased 1.3% per year.

### **Historical Trends**

- During the 25 years following 1948, motor vehicle traffic to and from Manhattan increased 2.9% per year. By 1973 it had reached 1.493 million daily trips. Gasoline shortages arising from the first OPEC oil crisis contributed to traffic declining by 1.5% per year between 1973 and 1976. In 1977 and 1978, traffic growth resumed at 2.3% per year. Another OPEC crisis caused traffic to decline 2.4% in 1979. The 1980s brought new growth at 2.9% per year until 1987, when traffic volume declined by less than 1%. This slow downward trend continued through 1994. This was followed by increases of 3.0% in 1995, 0.4% in 1996, 4.4% in 1997, 2.9% in 1998, 1.7% in 1999, and 1.2% in 2000 (to an all time record of 1.956 million). In fall 2001, shortly after the events of 9/11, daily volume decreased 12.4%, to 1.713 million. In fall 2002, daily volume rebounded by 8.4%, to 1,857 million. In fall 2003, daily volume rose an additional 2.2%, to 1.897 million.
- Between 1948 and 2003, daily vehicle trips to and from Manhattan rose 183%, to 1,897,400 from 670,000 (1,227,400 additional daily trips). The biggest growth was on the PANYNJ's

three trans-Hudson facilities, where traffic climbed by 373%. Traffic rose 94% on the four toll-free East River bridges, 165% on the nine toll-free Harlem River bridges, and 230% on the MTABT's four toll crossings.

- Between 1953 and 1963, daily traffic growth to and from Manhattan averaged 2.1% per year. The largest annual growth rates occurred on the Brooklyn Bridge (+11.4%), and on the Third Avenue Bridge over the Harlem River (+6.4%). The largest annual decline was on the Manhattan Bridge, where daily traffic decreased 4.2% per year.
- Between 1963 and 1973, daily traffic growth to and from Manhattan averaged 2.2% per year. The largest annual growth rates occurred on the George Washington and Triborough Bridges, +5.7% and +3.3%, respectively. The biggest annual declines were on the Third Avenue and 145<sup>th</sup> Street Bridges over the Harlem River (-2.2% per year each).
- Between 1973 and 1983, traffic growth on all Manhattan crossings averaged 0.9% per year. The largest annual growth rates were through the Brooklyn-Battery Tunnel (+2.7%), and on the Broadway Bridge over the Harlem River (+2.4%). The biggest annual decline was on the Henry Hudson Bridge (-1.6% per year).
- Between 1983 and 1993, traffic growth on all Manhattan river crossings averaged 0.5% per year. The largest annual growth rates were on the Henry Hudson Bridge (+5.2%), the Broadway Bridge over the Harlem River (+2.5%), and through the Holland Tunnel (+2.5%). The largest annual decline was on the Manhattan Bridge, where daily traffic decreased 2.4% per year.
- During the 55-year period from 1948 to 2003, average daily Manhattan vehicular river crossings rose 183%, to 1,897,400 from 670,000. During the same period, annual citywide subway ridership declined by 32%, to 1,384,000,000 from 2,031,000,000.

## **Origin-Destination**

- According to the 1990 census data, 45% of all automobile work trips ending in Manhattan originated in the other four boroughs, 43% came from outside the city, and the remaining 12% originated within Manhattan.
- Origin and Destination (O & D) surveys conducted by PANYNJ in 1989 at its trans-Hudson crossings show that 40% of all automobiles entering Manhattan from New Jersey each day have final destinations outside Manhattan. Similar surveys conducted in 1991 show that 78% of the trucks entering from New Jersey have final destinations outside Manhattan. These figures indicate that 109,075 autos and trucks entering Manhattan from New Jersey in 2003 each day were simply passing through.
- PANYNJ's O & D surveys show that 78% (85,550 vehicles) of all daily "through-Manhattan" auto and truck trips from New Jersey use the George Washington Bridge and the Trans-Manhattan Expressway. The remaining 22% (23,525 vehicles) use the Lincoln and Holland Tunnels and proceed across Manhattan along congested City streets.
- PANYNJ reports show that 67% (30,225 automobiles) of morning peak period (7-10 am) automobiles entering from New Jersey have final destinations in Manhattan.

## 2003 Bridge and Tunnel Reconstruction

### *Brooklyn Bridge*

Prior to November 17, 2003, non-essential **single-occupant vehicles** were banned from the Manhattan-bound roadway on weekdays between 6:00-10:00 am. This restriction had been imposed following the events of 9/11/2001, and was discontinued as of November 17, 2003.

**Eastbound lane closures** were in effect as follows.

01/01-07/25:	10:00am - 3:00pm	Mon-Fri	1 e/b lane closed intermittently,
	5:00am - 2:00pm	Sat-Sun	1 e/b lane closed intermittently.
07/26-08/29:	1:00am - 6:00am	Mon-Fri	1 e/b lane closed intermittently,
	10:00am - 3:00pm	Mon-Fri	1 e/b lane closed intermittently,
	5:00am - 2:00pm	Sat	1 e/b lane closed intermittently.
08/30-12/31:	10:00am - 3:00pm	Mon-Fri	1 e/b lane closed intermittently,
	6:00am - 2:00pm	Sat	1 e/b lane closed intermittently.

**Westbound lane closures** were in effect as follows.

04/05-04/19:	12:01am - 10:00am	Sat	1 w/b lane closed intermittently.
05/06-05/13:	10:00am - 2:00pm	Tue-Thu	1 w/b lane closed intermittently.
09/19-09/26:	12:01am - 5:00am	Fri	2 w/b lanes closed.
12/01-12/12:	12:01am - 5:00am	Mon-Fri	2 w/b lanes closed intermittently.
12/27-12/31:	11:00pm - 6:00am	Mon-Fri	1 w/b lane closed intermittently,
	1:00am - 7:00am	Sat	1 w/b lane closed intermittently,
	1:00am - 9:00am	Sun	1 w/b lane closed intermittently.

The Brooklyn Bridge was completely **closed Manhattan-bound** for commercial film activity according to the following schedule.

10/05-10/09:	10:00pm - 5:00am	Sun-Thu	Manhattan-bound roadway closed.
10/13-10/15:	10:00pm - 5:00am	Mon-Wed	Manhattan-bound roadway closed.
10/17-10/18:	10:00pm - 5:00am	Fri-Sat	Manhattan-bound roadway closed.
10/21-10/22:	10:00pm - 5:00am	Tue-Wed	Manhattan-bound roadway closed.

*During these times, the reversible Lower Roadway of the Manhattan Bridge was operated westbound to Manhattan to accommodate the detoured traffic.*

One lane on the **Tillary Street entrance** (to Manhattan) was closed as follows.

08/09-10/31:	9:00pm - 5:00am	Sun-Fri	1 lane closed.
12/01-12/12:	9:00pm - 5:00am	All days	1 lane closed intermittently.

Throughout 2003, there were additional intermittent closings of single lanes in both directions on the Brooklyn Bridge during off-peak hours.

## ***Manhattan Bridge***

Prior to November 17, 2003, non-essential **single-occupant vehicles** were banned from the Manhattan-bound roadways on weekdays between 6:00-10:00 am. This restriction had been imposed following the events of 9/11/2001, and was discontinued as of November 17, 2003.

Throughout 2003, **pedestrian and bicycle access** was provided on the south side of the Manhattan Bridge, on an interim roadway.

The **North Upper Roadway**, which had been closed round-the-clock for reconstruction since August 1, 2002, was reopened on June 1, 2003.

As of June 2, 2003, one **Lower Roadway** lane was closed round-the-clock for reconstruction, with a second lane also closed intermittently except 5:00-10:00am and 3:00-9:00pm weekdays.

From November 1 through December 31, 2003, either the **Lower Roadway or South Upper Roadway** was closed intermittently weeknights between 9:00pm and 5:00am for installation of overhead message board structure. Only one of these two roadways was closed at any specific time, leaving two operating traffic lanes in each direction.

### **Manhattan Bridge Operation: January 1 - May 31, 2003**

*North Upper Roadway closed round-the-clock (since 01/08/2002).*

*Manhattan-bound traffic could access westbound Canal Street and northbound Bowery only. No direct access to Chrystie Street or eastbound Canal Street.*

*Brooklyn-bound traffic could access Flatbush Avenue and Jay Street.*

*Commercial traffic permitted on the bridge at all times in both directions, with Brooklyn-bound commercial traffic required to use the South Upper Roadway at all times.*

*Lower Roadway (reversible) lane closures in effect as follows.*

01/01-05/31: 5:00am - 10:00am Mon-Fri No closures.

3:00pm - 9:00pm Mon-Fri No closures.

All other times 1 lane closed intermittently.

*Three peak direction lanes on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).*

**5:00am - 10:00am Mon - Fri. Jan 1 – May 31.**

- Manhattan-bound: 3 lanes on Lower Roadway.

- Brooklyn-bound: 2 lanes on South Upper Roadway.

**3:00pm - 9:00pm Mon - Fri. Jan 1 – May 31.**

- Manhattan-bound: 2 lanes on Lower Roadway.

- Brooklyn-bound: 3 lanes: 2 lanes on South Upper Roadway,  
1 reversed lane on Lower Roadway for  
passenger cars only.

**All other times.**

**Jan 1 – May 31.**

- Manhattan-bound: 2 lanes on Lower Roadway,  
3rd lane available when work not occurring.
- Brooklyn-bound: 2 lanes on South Upper Roadway.

**Manhattan Bridge Operation: June 1 - October 31, 2003**

*North Upper Roadway reopened June 1 (had been closed round-the-clock since 01/08/2002).*

*Lower Roadway (reversible) lane closures in effect as follows.*

- 1 of 3 lanes closed round-the-clock.
- 2nd lane closed intermittently except 5:00-10:00am & 3:00-9:00pm weekdays.

*Four peak direction lanes available on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).*

**5:00am - 10:00am Mon - Fri. June 1 – Oct 31.**

- Manhattan-bound: 4 lanes: 2 on North Upper Roadway,  
2 on Lower Roadway.
- Brooklyn-bound: 2 lanes on South Upper Roadway.

**10:00am - 1:00pm Mon - Fri. June 1 – Oct 31.**

- Manhattan-bound: 3-4 lanes: 2 on North Upper Roadway,  
1 or 2 on Lower Roadway.
- Brooklyn-bound: 2 lanes on South Upper Roadway.

**1:00pm - 3:00pm Mon - Fri. June 1 – Oct 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 3-4 lanes: 2 on South Upper Roadway,  
1 or 2 on Lower Roadway.

**3:00pm - 9:00pm Mon - Fri. June 1 – Oct 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 4 lanes: 2 on South Upper Roadway,  
2 on Lower Roadway.

**6:00am - 6:00pm Sat - Sun. Sep 6-7 only.**

- Manhattan-bound: 4 lanes: 2 on North Upper Roadway,  
2 on Lower Roadway.
- Brooklyn-bound: 2 lanes on South Upper Roadway.  
*Williamsburg Bridge Manhattan-bound capacity reduced to two lanes with trucks restricted these dates/hours.*

**10:00pm - 5:00am. Oct 5-9, 13-15, 17, & 21 only.**

- Manhattan-bound: 4 lanes: 2 on North Upper Roadway,  
2 on Lower Roadway.
- Brooklyn-bound: 2 lanes on South Upper Roadway.  
*Brooklyn Bridge closed Manhattan-bound for commercial film activity these dates/hours.*

**All other times.**

**June 1 – Oct 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 3-4 lanes: 2 on South Upper Roadway,  
1 or 2 on Lower Roadway.

**Manhattan Bridge Operation: November 1 - December 31, 2003.**

***South Upper Roadway or Lower Roadway closed intermittently weeknights 9:00pm to 5:00am for installation of overhead message board structure.***

***Lower Roadway (reversible) lane closures in effect as follows.***

- 1 of 3 lanes closed round-the-clock.
- 2nd lane closed intermittently except 5:00-10:00am & 3:00-9:00pm weekdays.

***Four peak direction lanes available on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).***

**5:00am - 10:00am Mon - Fri. Nov 1 – Dec 31.**

- Manhattan-bound: 4 lanes: 2 on North Upper Roadway,  
2 on Lower Roadway.
- Brooklyn-bound: 2 lanes on South Upper Roadway.

**10:00am - 1:00pm Mon - Fri. Nov 1 – Dec 31.**

- Manhattan-bound: 3-4 lanes: 2 on North Upper Roadway,  
1 or 2 on Lower Roadway.
- Brooklyn-bound: 2 lanes on South Upper Roadway.

**1:00pm - 3:00pm Mon - Fri. Nov 1 – Dec 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 3-4 lanes: 2 on South Upper Roadway,  
1 or 2 on Lower Roadway.

**3:00pm - 9:00pm Mon - Fri. Nov 1 – Dec 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 4 lanes: 2 on South Upper Roadway,  
2 on Lower Roadway.

**9:00pm - 5:00am Mon - Fri. Nov 1 – Dec 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 2-4 lanes: 2 on South Upper Roadway,  
and/or 2 on Lower Roadway.

***South Upper Roadway or Lower Roadway closed intermittently for installation of overhead message board structure.***

**All other times.**

**Nov 1 – Dec 31.**

- Manhattan-bound: 2 lanes on North Upper Roadway.
- Brooklyn-bound: 3-4 lanes: 2 on South Upper Roadway,  
1 or 2 on Lower Roadway.

Throughout 2003, there were additional intermittent closings of single lanes in both directions on individual roadways of the Manhattan Bridge during off-peak hours.

## ***Queensboro Bridge***

Throughout 2003, **trucks** were permitted only on the two Lower Inner Roadways.

Throughout 2003, a **High Occupancy Vehicle (HOV) facility** was in effect on the Queensboro Bridge. The normally Queens-bound South Upper Roadway was reversed between 6:00am and 10:00am on weekdays to accommodate Manhattan-bound HOVs (no trucks) carrying two or more occupants.

Queensboro Bridge Operation: All of 2003.

North Inner Roadway:	W/B all times; W/B trucks required to use this roadway.
South Inner Roadway:	E/B all times; E/B trucks required to use this roadway.
North Upper Roadway:	W/B all times.
South Upper Roadway:	Closed for reversal 5:30-6:00am weekdays, W/B HOVs 6:00-10:00am weekdays, Closed for reversal 10:00-11:00am weekdays, E/B all other times.
North Outer Roadway:	Bicyclists and pedestrians all times.
South Outer Roadway:	E/B all times (passenger cars only).

Throughout 2003, there were intermittent closings of single lanes on individual roadways of the Queensboro Bridge during off-peak hours. These closings were limited to one lane in each direction.

## ***Williamsburg Bridge***

Prior to November 17, 2003, non-essential **single-occupant vehicles** were banned from the Manhattan-bound roadways on weekdays between 6:00-10:00 am. This restriction had been imposed following the events of 9/11/2001, and was discontinued as of November 17, 2003.

Throughout 2003, **trucks** were permitted only on the outer roadways of the Williamsburg Bridge.

Either the **North Inner Roadway** or **South Inner Roadway** was closed according to the following schedule.

01/01-05/30	5:00am - 3:00pm	Mon-Fri.
01/01-01/12	6:00am - 6:00pm	Sat-Sun.
02/08	5:00am - 3:00pm	Sat.
04/05-05/03	6:30am - 3:00pm	Sat.

The **North Outer Roadway** was closed according to the following schedule.

09/06-11/24	12:01am - 5:00am	Mon-Fri.	<i>Manhattan-bound trucks detoured to</i>
	1:00am - 6:00am	Sat-Sun.	<i>Manhattan Bridge these hours.</i>
11/15-11/16	1:00am Saturday - 8:00pm	Sunday.	
			<i>Manhattan-bound trucks detoured to the Manhattan Bridge.</i>

12/06-12/07 4:00am Saturday - 8:00pm Sunday.  
*Manhattan-bound trucks detoured to the Manhattan Bridge.*

**One North Inner Roadway lane and one North Outer Roadway lane** were closed round-the-clock according to the following schedule.

09/06-11/24 Round-the-clock All days.

The **South Outer Roadway** was closed according to the following schedule.

11/08 7:00am - 8:00pm Sat.  
*Brooklyn-bound trucks detoured to the Manhattan Bridge.*

Either the **South Inner Roadway or South Outer Roadway** was completely closed according to the following schedule.

05/31-06/13 12:01am - 5:00am Mon-Fri. *Brooklyn-bound trucks detoured to*  
2:00am - 7:00am Sat-Sun. *the Manhattan Bridge these hours.*

06/14-09/05 2:00am - 5:00am Mon-Fri. *Brooklyn-bound trucks detoured to*  
2:00am - 7:00am Sat-Sun. *the Manhattan Bridge these hours.*

**One South Inner Roadway lane and one South Outer Roadway lane** were closed according to the following schedule.

05/31-09/05 Round-the-clock All days.

**Williamsburg Bridge Operation: January 1 - May 30, 2003.**

*North Inner Roadway or South Inner Roadway closed as noted.*

*South Inner Roadway reversed to Manhattan-bound as noted.*

*Four peak direction lanes available on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).*

**Mon-Fri 5:00am - 3:00pm. Jan 1 - May 30.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy,  
2 North Inner, or reversed South Inner Rdwy.
- Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*North Inner or South Inner Roadway closed during these hours.*

**Sat-Sun 6:00am - 6:00pm. Jan 1-12 only.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy,  
2 North Inner, or reversed South Inner Rdwy.
- Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*North Inner or South Inner Roadway closed during these hours.*

**Saturday 5:00am - 3:00pm. Feb 8 only.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy,  
2 South Inner Rdwy (reversed these hours).
- Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*North Inner Roadway closed during these hours.*

**Saturday 6:30am - 3:00pm. April 5 - May 3 only.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy,  
2 South Inner Rdwy (reversed these hours).
- Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*North Inner Roadway closed during these hours.*

**All other times. Jan 1 - May 30.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy & 2 North Inner Rdwy.
- Brooklyn-bound: 4 lanes: 2 South Outer Rdwy & 2 South Inner Rdwy.

**Williamsburg Bridge Operation: May 31 – September 5, 2003.**

***One South Inner Roadway lane and one South Outer Roadway lane closed round-the-clock.***

***South Inner or South Outer Roadway completely closed as follows.***

*12:01am-5:00am Mon-Fri May 31-June 13.*

*2:00am-5:00am Mon-Fri June 14-September 5.*

*2:00am-7:00am Sat-Sun May 31-September 5.*

*Brooklyn-bound trucks detoured to Manhattan Bridge during these times.*

***Four peak direction lanes available on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).***

**Mon-Fri 12:01am - 5:00am. May 31 - June 13.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy, 2 North Inner Rdwy.
  - Brooklyn-bound: 1 lane: South Inner or South Outer Rdwy.
- Brooklyn-bound trucks detoured to Manhattan Bridge during these hours.*

**Mon-Fri 2:00am - 5:00am. June 14 - Sep 5.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy, 2 North Inner Rdwy.
  - Brooklyn-bound: 1 lane: South Inner or South Outer Rdwy.
- Brooklyn-bound trucks detoured to Manhattan Bridge during these hours.*

**Mon-Fri 5:00am - 3:00pm. May 31 - July 18.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy, 2 North Inner Rdwy.
- Brooklyn-bound: 2 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy.

**Mon-Fri 5:00am - 10:00am. July 19 - Sep 5.**

- Manhattan-bound: 4 lanes: 2 North Outer Rdwy, 2 North Inner Rdwy.
- Brooklyn-bound: 2 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy.

**Mon-Fri 10:00am - 3:00pm. July 19 - Sep 5.**

- Manhattan-bound: 3-4 lanes: 1-2 North Outer Rdwy, 1-2 North Inner Rdwy.
  - Brooklyn-bound: 2 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy.
- 1 lane closed intermittently on westbound North Outer or North Inner Rdwy.*

**Mon-Fri 3:00pm - midnight. May 31 - June 13.**

Manhattan-bound: 2 lanes: North Outer Rdwy.  
Brooklyn-bound: 4 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy,  
2 North Inner Rdwy reversed these hours.

**Mon-Fri 3:00pm – 2:00am. June 14 - Sep 5.**

Manhattan-bound: 2 lanes: North Outer Rdwy.  
Brooklyn-bound: 4 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy,  
2 North Inner Rdwy reversed these hours.

**Sat-Sun 2:00am - 7:00am. May 31 - Sep 5.**

Manhattan-bound: 4 lanes: 2 North Outer Rdwy, 2 North Inner Rdwy.  
Brooklyn-bound: 1 lane: South Inner or South Outer Rdwy.  
*Brooklyn-bound trucks detoured to Manhattan Bridge during these hours.*

**Sat-Sun 7:00am - 3:00pm. May 31 - Sep 5.**

Manhattan-bound: 4 lanes: 2 North Outer Rdwy, 2 North Inner Rdwy.  
Brooklyn-bound: 2 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy.

**Sat-Sun 3:00pm - 2:00am. May 31 - Sep 5.**

Manhattan-bound: 2 lanes: North Outer Rdwy.  
Brooklyn-bound: 4 lanes: 1 South Outer Rdwy, 1 South Inner Rdwy,  
2 North Inner Rdwy reversed these hours.

**Williamsburg Bridge Operation: September 6 – November 23, 2003.**

*One North Inner Roadway lane and one North Outer Roadway lane closed round-the-clock.*

*One additional westbound lane closed intermittently 10:00am-3:00pm weekdays.*

*Manhattan-bound trucks banned from the bridge round-the-clock.*

*North Outer roadway completely closed as follows.*

09/06-11/24 12:01am-5:00am Mon-Fri,  
1:00am-6:00am Sat-Sun.

11/15-11/16 1:00am Sat. – 8:00pm Sun.

*South Outer roadway completely closed as follows.*

11/08 7:00am-8:00pm Sat.  
*Brooklyn-bound trucks banned from the bridge.*

*Four peak direction lanes available on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).*

**4:00am Sat – 5:00am Mon. Sep 6-8 only.**

Manhattan-bound: 2 lanes. *Trucks restricted in both directions*  
Brooklyn-bound: 2 lanes. *during this weekend time.*

**4:00am Sat – 8:00pm Sun. Oct 11 – Nov 2 only.**

Manhattan-bound: 2 lanes. *Trucks restricted in both directions*  
Brooklyn-bound: 2 lanes. *during these weekend times.*

**7:00am – 8:00pm Sat. Nov 8 only.**  
Manhattan-bound: 2 lanes. *S. Outer Rdwy closed and Brooklyn-bound trucks banned from the bridge.*  
Brooklyn-bound: 2 lanes.

**1:00am Sat – 8:00pm Sun. Nov 15-16 only.**  
Manhattan-bound: 3 lanes. *N. Outer Rdwy closed and S. Inner Rdwy operated Manhattan-bound.*  
Brooklyn-bound: 2 lanes.

**Mon-Fri 12:01am - 5:00am. Sep 6 – Nov 23.**  
Manhattan-bound: 3 lanes: 1 North Inner Rdwy, 2 South Inner Rdwy reversed these hours.  
Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*North Outer Roadway closed.*

**Mon-Fri 5:00am -10:00am. Sep 6 – Nov 23.**  
Manhattan-bound: 4 lanes: 1 North Outer Rdwy, 1 North Inner Rdwy, 2 South Inner Rdwy reversed these hours.  
Brooklyn-bound: 2 lanes: South Outer Rdwy.

**Mon-Fri 10:00am - 3:00pm. Sep 6 – Nov 23.**  
Manhattan-bound: 3-4 lanes: 0-1 North Outer Rdwy, 0-1 North Inner, 1-2 South Inner Rdwy reversed these hours.  
Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*One of four Manhattan-bound lanes closed intermittently these hours.*

**Mon-Fri 3:00pm - Midnight. Sep 6 – Nov 23.**  
Manhattan-bound: 2 lanes: 1 North Outer Rdwy, 1 North Inner Rdwy.  
Brooklyn-bound: 4 lanes: 2 South Outer Rdwy, 2 South Inner Rdwy.

**Sat-Sun 1:00am - 6:00am. Sep 6 – Nov 23.**  
Manhattan-bound: 3 lanes: 1 North Inner Rdwy, 2 South Inner Rdwy reversed these hours.  
Brooklyn-bound: 2 lanes: South Outer Rdwy.  
*North Outer Roadway closed.*

**Sat-Sun 6:00am - 3:00pm. Sep 6 – Nov 23.**  
Manhattan-bound: 4 lanes: 1 North Outer Rdwy, 1 North Inner Rdwy, 2 South Inner Rdwy reversed these hours.  
Brooklyn-bound: 2 lanes: South Outer Rdwy.

**Sat-Sun 3:00pm - 1:00am. Sep 6 – Nov 23.**  
Manhattan-bound: 2 lanes: 1 North Outer Rdwy, 1 North Inner Rdwy.  
Brooklyn-bound: 4 lanes: 2 South Outer Rdwy, 2 South Inner Rdwy.

**Williamsburg Bridge Operation: November 24 – December 31, 2003.**

*North Outer roadway completely closed as follows.*

*12/06-12/07 4:00am Saturday - 8:00pm Sunday.  
Manhattan-bound trucks banned from the bridge.*

*Four peak direction lanes available on weekdays (5:00-10:00am inbound, 3:00-9:00pm outbound).*

**4:00am Sat – 8:00pm Sun. Dec 6-7 only.**

Manhattan-bound: 2 lanes.

Brooklyn-bound: 4 lanes.

*North Outer Roadway closed, and Manhattan-bound trucks banned from the bridge.*

**Mon-Fri 12:01am - 5:00am. Nov 24 – Dec 31.**

Manhattan-bound: 3 lanes.

*One lane closed in*

Brooklyn-bound: 3 lanes.

*each direction.*

**Mon-Fri 5:00am - 3:00pm. Nov 24 – Dec 31.**

Manhattan-bound: 4 lanes.

*Two lanes closed in*

Brooklyn-bound: 2 lanes.

*the off-peak direction.*

**Mon-Fri 3:00pm - Midnight. Nov 24 – Dec 31.**

Manhattan-bound: 2 lanes.

*Two lanes closed in*

Brooklyn-bound: 4 lanes.

*the off-peak direction.*

**Sat-Sun 1:00am - 8:00am. Nov 24 – Dec 31.**

Manhattan-bound: 3 lanes.

*One lane closed in*

Brooklyn-bound: 3 lanes.

*each direction.*

**All other times.**

**Nov 24 – Dec 31.**

Manhattan-bound: 4 lanes.

Brooklyn-bound: 4 lanes.

### ***Broadway Bridge***

As of May 3, one of three lanes in each direction on the Broadway Bridge was closed round-the-clock.

From 6:00am Saturday, July 19, to 5:00am Monday, July 21, two of three lanes in each direction were closed.

### ***Macombs Dam Bridge***

From January 1 to April 4, one of two lanes in each direction on the Macombs Dam Bridge and the 155<sup>th</sup> Street viaduct was closed round-the-clock. In addition, the ramp from southbound Major Deegan Expressway to the bridge (Exit 5), and the ramp from the bridge to southbound Major Deegan Expressway, were also closed. Access to/from the bridge via Adam Clayton Powell, Jr. Boulevard and Macombs Place was also closed.

In addition, there were intermittent closures of one of two lanes in each direction on the Macombs Dam Bridge and the 155<sup>th</sup> Street viaduct according to the following schedule.

04/05-08/15: 10:00am - 3:00pm Mon-Fri.

10:00pm - 6:00am Mon-Fri.

*No closures within two hours of the start or end of Yankee home games.*

08/16-12/31:	10:00am - 3:00pm	Mon-Fri.
	10:00pm - 6:00am	Mon-Fri.
	12:01am - 8:00am	Sat.
	1:00am - 9:00am	Sun.

*No closures within two hours of the start or end of Yankee home games.*

The Macombs Dam Bridge was completely closed according to the following schedule.

07/27:	1:00am - 9:00am	Sun.
08/01-08/05:	12:01am - 5:00am	Fri, Mon, Tue.
	1:00am - 6:00am	Sat, Sun.
11/13:	11:00pm - 5:00am	Thu.
11/17-11/20:	11:00pm - 5:00am	Mon-Thu.
11/22:	1:00am - 7:00am	Sat.
11/24-11/25:	11:00pm - 5:00am	Mon-Tue.
12/09-12/22:	12:01am - 5:00am	Mon-Fri.
	1:00am - 6:00am	Sat.

### ***Madison Avenue Bridge***

Throughout 2003, there were intermittent weekday closings of one of the two Manhattan-bound lanes between 9:30am and 3:00pm, and one of the two Bronx-bound lanes between 8:00am and 3:00pm. There were no lane closures during New York Yankee home games.

The Madison Avenue Bridge was completely closed according to the following schedule.

06/03-06/10:	11:00pm - 5:00am	Mon-Fri.
	12:01am - 6:00am	Sat-Sun.
06/23-06/27:	11:00pm - 5:00am	Mon-Fri.
07/28-07/31:	11:00pm - 5:00am	Mon-Thu.
08/11-08/14:	11:00pm - 5:00am	Mon-Thu.

### ***Third Avenue Bridge (Harlem River)***

Throughout 2003, two of the four Manhattan-bound lanes were closed for long term bridge rehabilitation.

*During this period, on weekdays between 6:00-10:00am, and from 10:00pm to 2:00am following Yankee home games, Manhattan-bound passenger cars were accommodated in a reverse lane on the Willis Avenue Bridge.*

An additional lane on the bridge was also closed intermittently according to the following schedule, leaving only one operational lane.

08/21-08/22:	12:01am - 5:00am	Thu-Fri.	3 <sup>rd</sup> lane closed intermittently.
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From January 1 to April 13, the bridge entrance from Bruckner Boulevard was closed.

As of April 14, the bridge entrance from Third Avenue was closed.

The Third Avenue Bridge was completely closed according to the following schedule.

01/26:	1:00am - 8:00am	Sun.
02/09:	1:00am - 8:00am	Sun.
06/15:	1:00am - 8:00am	Sun.
08/24:	2:00am - 6:00am	Sun.

On June 11, the Second Avenue exit from the bridge was closed between 11:00am and 3:00pm, with traffic routed to the Lexington Avenue exit.

### ***Washington Bridge***

Intermittent lane closures were in effect according to the following schedule.

05/24-12/31:	7:00am - 3:00pm	Mon-Fri	1 of 3 westbound lanes closed intermittently.
	9:00am - 3:00pm	Mon-Fri	1 of 3 eastbound lanes closed intermittently.
	6:00am - 2:00pm	Sat-Sun	1 of 3 lanes in each direction closed intermittently.

### ***Willis Avenue Bridge***

Throughout 2003, one lane was reversed to Manhattan-bound between 6:00-10:00am weekdays, and from 10:00pm to 2:00am following Yankee home games, to accommodate traffic (passenger cars only) from the Third Avenue Bridge reconstruction. Direct access to the reversal lane was available from southbound Major Deegan Expressway (Exit 2), and from local streets via East 134<sup>th</sup> Street. Passenger cars using the reversal lane exited at First Avenue and 125<sup>th</sup> Street in Manhattan, and could turn left for access to southbound FDR Drive, or right for access to local streets.. During these hours, there were two Bronx-bound lanes open (one lane from the First Avenue approach and one lane from the FDR Drive approach).

Throughout 2003, there were intermittent weekday closures of one of two lanes from the First Avenue and FDR Drive approaches between 12:01am and 5:00am.

### ***145<sup>th</sup> Street Bridge***

There were intermittent closures of one of two lanes in each direction as follows.

08/02-12/31:	9:30am - 3:00pm	Mon-Fri.
	6:00am - 2:00pm	Sat.

*There were no lane closures during Yankee home games.*

### ***Brooklyn-Battery Tunnel***

Prior to November 17, 2003, non-essential **single-occupant vehicles** were banned from entering Manhattan via the Brooklyn-Battery Tunnel on weekdays between 6:00-

10:00 am. This restriction had been imposed following the events of 9/11/2001, and was discontinued as of November 17, 2003.

Throughout 2003, the inbound **exit to Trinity Place** was closed weekdays between 6:00-10:00am, and between 3:00-7:00pm, in conjunction with the Church Street Transitway.

One of the two tubes was completely closed according to the following schedule.

07/13-08/22: 9:00pm - 6:00am Sunday nights to Friday mornings.  
*Two-way traffic was maintained in the other tube.*

08/23-12/31: 9:00pm - 5:00am Sunday nights to Friday mornings.  
*Two-way traffic was maintained in the other tube.*

11/15-11/17: 12:01am Saturday - 5:00am Monday.  
*Two-way traffic was maintained in the other tube.*

Throughout 2003, a northbound (Manhattan-bound) contra-flow **HOV lane** was provided on the Gowanus Expressway **between 92<sup>nd</sup> and 65<sup>th</sup> Streets** on weekdays from 6:00-10:00 am for buses, and for passenger cars with three or more persons, exiting the Upper Roadway of the Verrazano-Narrows Bridge. During these hours, there were three lanes northbound (inbound) and two lanes southbound (outbound) on this section of the Gowanus Expressway.

Throughout 2003, the Gowanus Expressway Manhattan-bound contra-flow **HOV lane between Belt Parkway and Gowanus Canal** was in effect on weekdays from 6:00-10:00 am, with access to the Brooklyn-Battery Tunnel only. This lane was available to buses, and to passenger cars with three or more persons equipped with *EZ-Pass*. During these hours, there were two lanes southbound (outbound) on this section of the Gowanus Expressway. In order to accommodate this special HOV lane, the outbound Gowanus Expressway entrance ramp from Third Avenue/Prospect Avenue was closed between 5:00-11:00am.

Throughout 2003, from 6:00-10:00am on weekdays, a Manhattan-bound contra-flow **bus lane** was also provided from the Prospect Expressway. The ramp from the outbound Gowanus Expressway to the outbound Prospect Expressway was closed from 5:00-6:00am, and from 10:00-11:00am, and was reversed from 6:00-10:00am. This Prospect Expressway priority bus lane runs parallel to the Gowanus Expressway contra-flow HOV lane from the Prospect/Gowanus interchange to the Brooklyn-Battery Tunnel.

### ***Henry Hudson Bridge***

**Northbound** (upper level) lane closures were in effect during 2003 according to the following schedule.

All of 2003: Round-the-clock All days 1 of 3 northbound lanes closed.

**Southbound** (lower level) lane closures were in effect during 2003 according to the following schedule.

All of 2003: Round-the-clock All days 1 of 4 southbound lanes closed.

11/17-11/18: 10:00am - 3:00pm Mon-Tue 2 of 4 southbound lanes closed.

From February 1 to December 31, there were intermittent closures of one or two lanes in each direction on the Henry Hudson Parkway south of the Henry Hudson Bridge, between West 179<sup>th</sup> and Dyckman Streets, during off-peak hours.

### ***Queens-Midtown Tunnel***

One of the two tubes was completely closed according to the following schedule.

11/01-11/09: 11:30pm - 1:00pm Saturday night to Sunday afternoon.  
*Two-way traffic maintained in the other tube.*

11/03-11/04: 9:30pm - 5:00am Monday night to Tuesday morning.  
*Two-way traffic maintained in the other tube.*

### ***Triborough Bridge***

Lane closures were in effect on the Triborough Bridge according to the following schedule.

All of 2003: All hours All days 1 lane closed round-the-clock.  
*4 lanes maintained during peak hours, 3 lanes off-peak.*

11/08-12/31: 7:00am Monday - 2:30pm Friday  
One lane closed on the Harlem River lift span leaving Manhattan for Queens/Bronx.

11/08-12/31: 10:00am - 2:30pm Mon-Fri 1 Manhattan-bound lane closed.

### ***George Washington Bridge***

Throughout 2003, **trucks** were required to use the upper level.

Roadway closures were in effect according to the following schedule.

06/07: 12:01am - 8:00am Sat Westbound Upper Level closed,  
Eastbound Lower Level closed.

Throughout 2003, there were also intermittent closures of single lanes on the various George Washington Bridge roadways and ramps during off-peak hours.

### ***Holland Tunnel***

Prior to November 17, 2003, non-essential **single-occupant vehicles** were banned from the Manhattan-bound tube on weekdays between 6:00-10:00 am. This restriction had been imposed following the events of 9/11/2001, and was discontinued as of November 17, 2003.

Throughout 2003, two-axle and three-axle single unit trucks were permitted eastbound to Manhattan. Tractor trailers, and single unit trucks with more than three axles, were not permitted.

From January 1 to July 6, the tunnel was open westbound to New Jersey for passenger cars and buses only.

As of July 7, the tunnel was also open westbound to New Jersey for two-axle and three-axle single unit trucks. Tractor trailers, and single unit trucks with more than three axles, were not permitted.

Eastbound (to Manhattan) lane closures were in effect in the Holland Tunnel according to the following schedule.

02/08-08/31:	10:00pm - 5:00am	Mon-Fri.	1 e/b lane closed.
	11:59pm Fri - 7:00am Sat.		1 e/b lane closed.

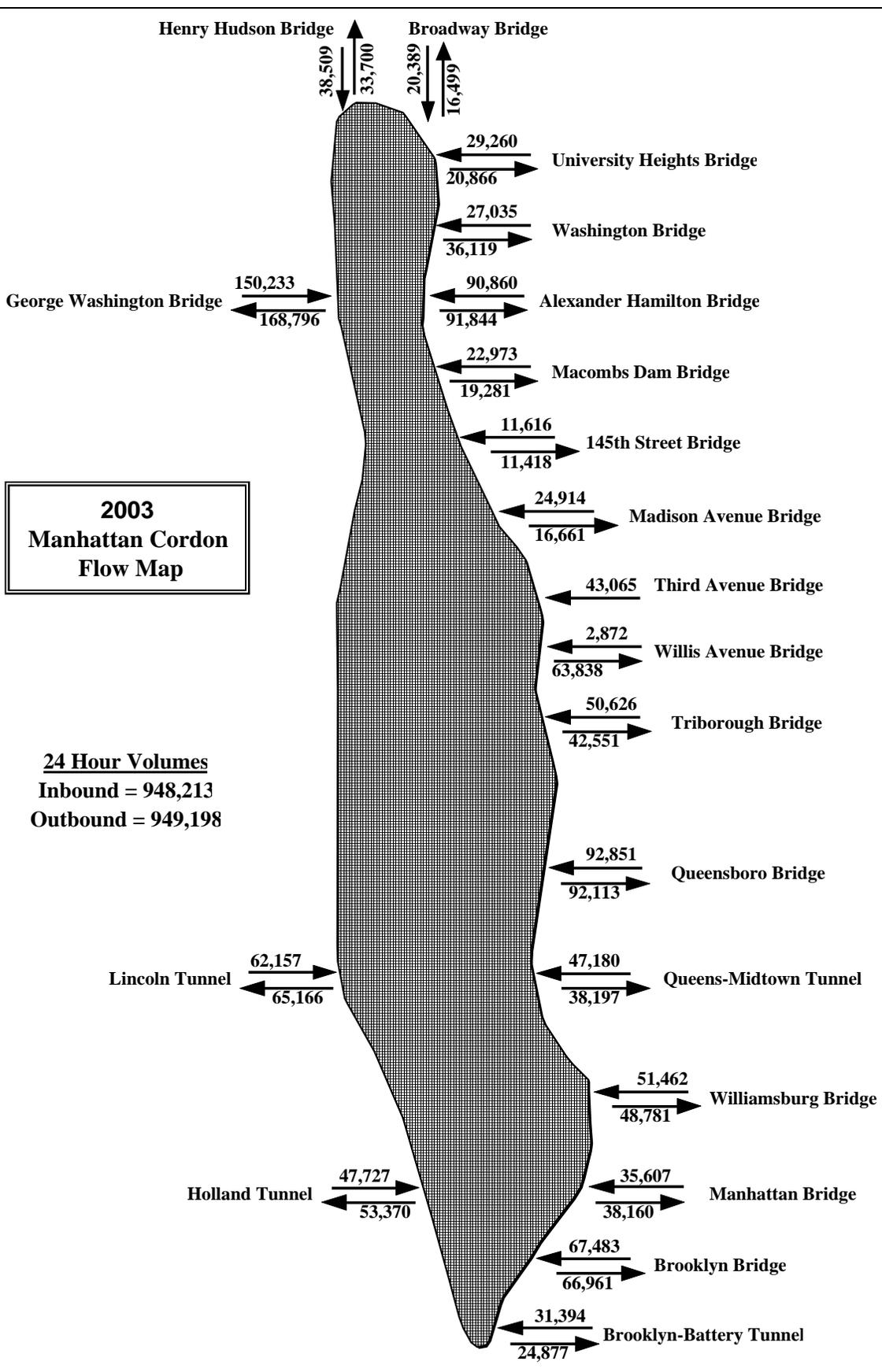
Westbound (to New Jersey) lane closures were in effect in the Holland Tunnel according to the following schedule.

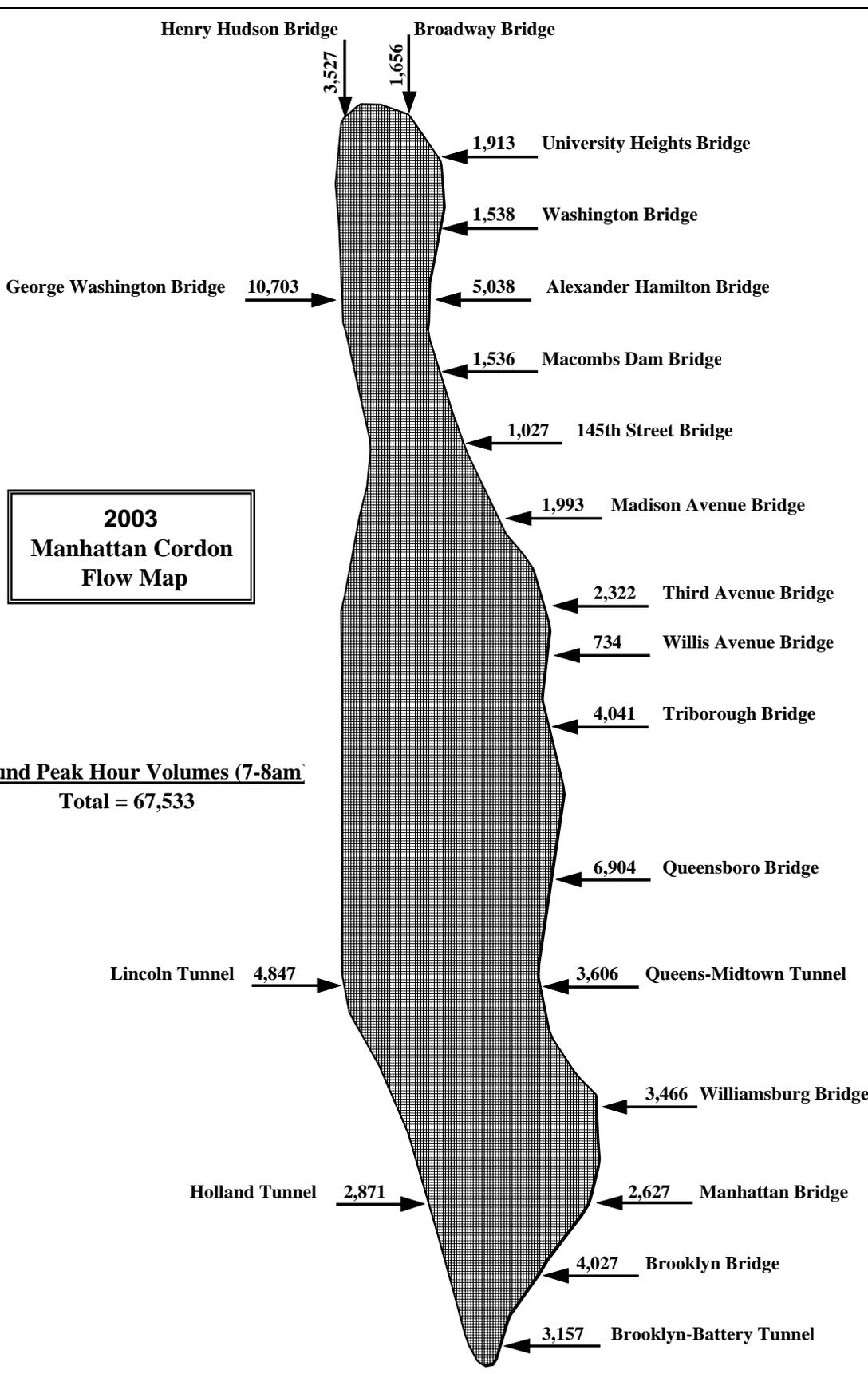
07/13-12/31:	11:00pm - 5:00am	Sun-Fri.	1 w/b lane closed intermittently.
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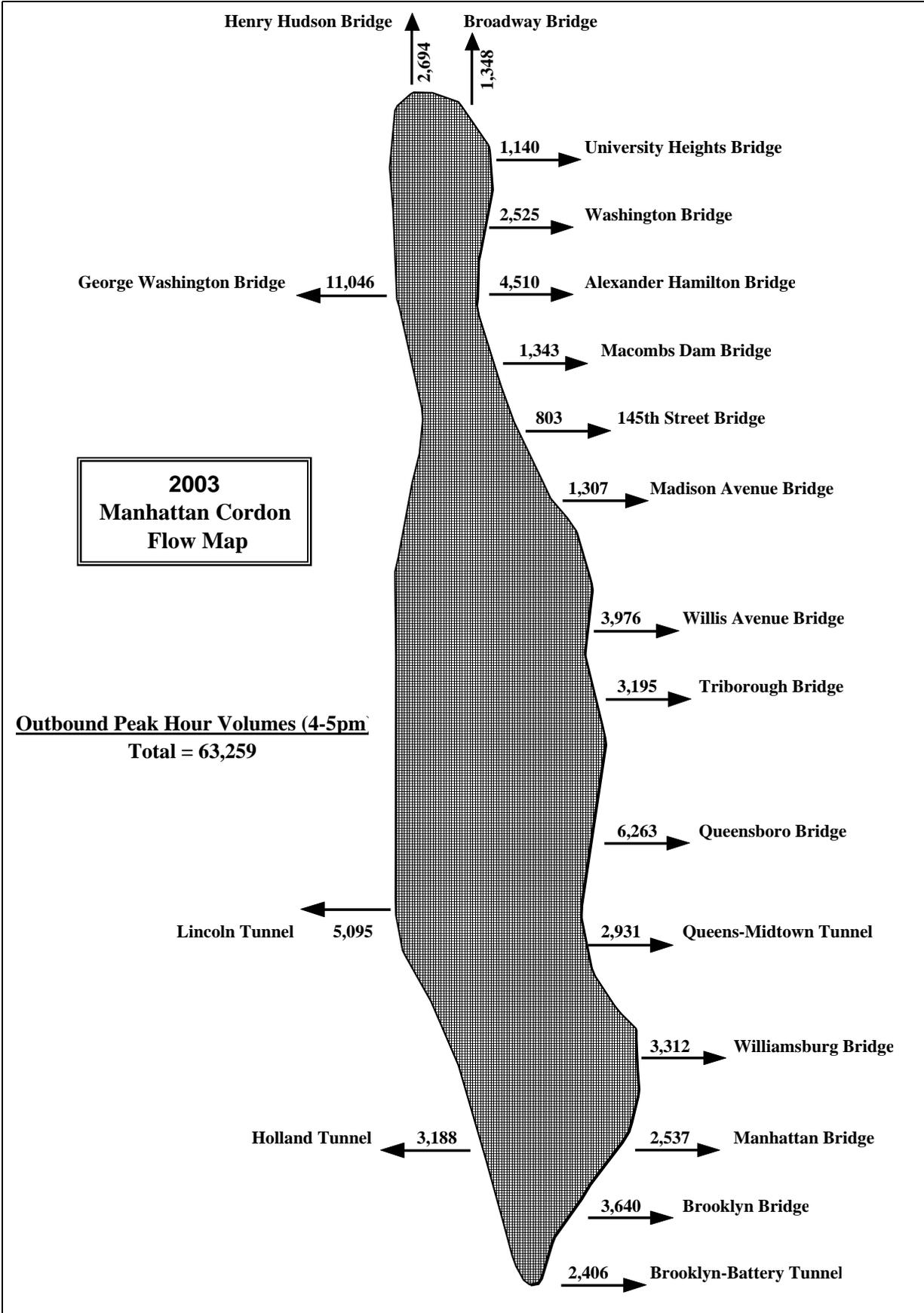
### ***Lincoln Tunnel***

One of the three tubes of the Lincoln Tunnel was closed as follows.

01/01-01/10:	11:00pm - 5:00am	Mon-Fri,	<i>Two tubes open, providing two traffic lanes in each direction.</i>
	12:30am - 8:00am	Sat-Sun.	
01/11-12/31:	11:00pm - 5:00am	Sun-Wed,	<i>Two tubes open, providing two traffic lanes in each direction.</i>
	1:00am - 9:00am	Sat-Sun.	







**Manhattan Crossings  
2003 Average Daily Traffic Volumes  
To and From Manhattan**

<b><i>EAST RIVER BRIDGES</i></b>	<b>To Manhattan</b>	<b>From Manhattan</b>	<b>2-way Total</b>
Brooklyn Bridge	67,483	66,961	134,444
Manhattan Bridge	35,607	38,160	73,767
Queensboro Bridge	92,851	92,113	184,964
Williamsburg Bridge	51,462	48,781	100,243
<b>Total East River</b>	<b>247,403</b>	<b>246,015</b>	<b>493,418</b>

***HARLEM RIVER BRIDGES***

Alexander Hamilton Bridge	90,860	91,844	182,704
Broadway Bridge	20,389	16,499	36,888
Macombs Dam Bridge	22,973	19,281	42,254
Madison Avenue Bridge	24,914	16,661	41,575
Third Avenue Bridge	43,065	-----	43,065
University Heights Bridge	29,260	20,866	50,126
Washington Bridge	27,035	36,119	63,154
Willis Avenue Bridge	2,872	63,838	66,710
145th Street Bridge	11,616	11,418	23,034
<b>Total Harlem River</b>	<b>272,984</b>	<b>276,526</b>	<b>549,510</b>

***MTABT FACILITIES***

Brooklyn-Battery Tunnel	31,394	24,877	56,271
Henry Hudson Bridge	38,509	33,700	72,209
Queens-Midtown Tunnel	47,180	38,197	85,377
Triborough Bridge	50,626	42,551	93,177
<b>Total MTABT</b>	<b>167,709</b>	<b>139,325</b>	<b>307,034</b>

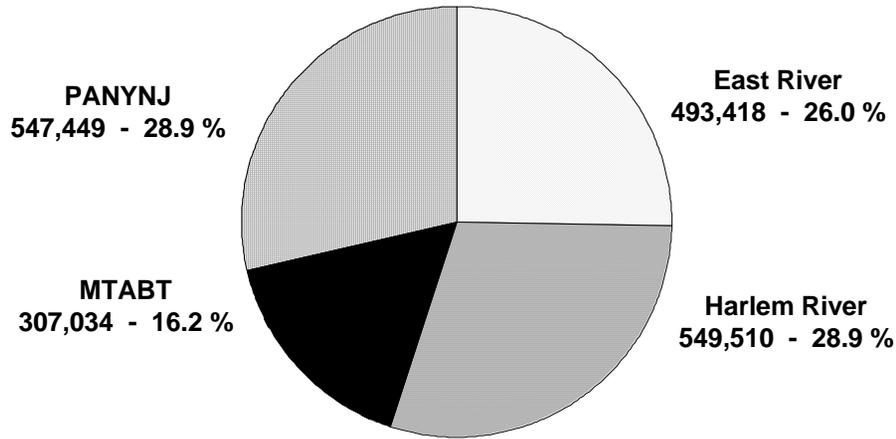
***PANYNJ FACILITIES***

George Washington Bridge	150,233	168,796	319,029
Holland Tunnel	47,727	53,370	101,097
Lincoln Tunnel	62,157	65,166	127,323
<b>Total PANYNJ</b>	<b>260,117</b>	<b>287,332</b>	<b>547,449</b>

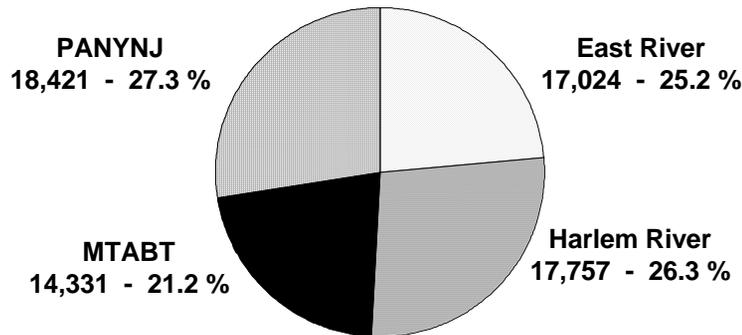
<b>GRAND TOTAL</b>	<b>948,213</b>	<b>949,198</b>	<b>1,897,411</b>
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# Manhattan Crossings Vehicle Volumes

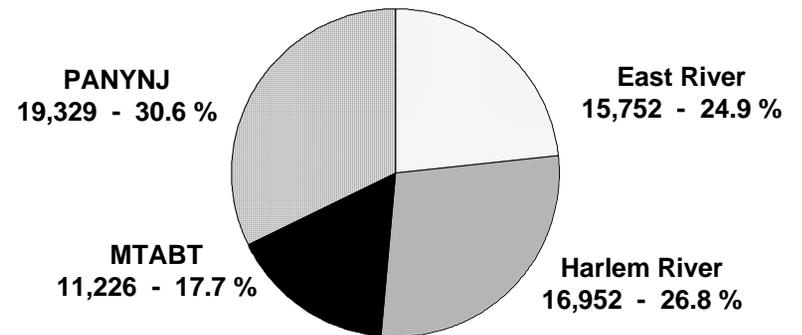
## 24-Hour Volumes – Both Directions



## A.M. Peak Hour Volumes – Inbound 7-8 am



## P.M. Peak Hour Volumes – Outbound 4-5 pm



## Total Manhattan Crossings 2003 Average Hourly Traffic Volumes To and From Manhattan (All Facilities)

	Entering Manhattan	Leaving Manhattan	2-Way Total
12-1am	15,924	27,039	42,963
1-2am	10,271	16,510	26,781
2-3am	8,308	11,576	19,884
3-4am	8,591	9,828	18,419
4-5am	13,327	11,845	25,172
5-6am	32,024	19,834	51,858
6-7am	58,858	34,776	93,634
7-8am	67,533 **	44,001	111,534
8-9am	64,848	45,176	110,024
9-10am	56,928	41,623	98,551
10-11am	48,866	39,219	88,085
11-12am	44,977	40,414	85,391
12-1pm	43,270	41,273	84,543
1-2pm	44,354	44,523	88,877
2-3pm	47,821	50,748	98,569
3-4pm	51,301	58,268	109,569
4-5pm	52,579	63,259 **	115,838
5-6pm	54,021	62,643	116,664
6-7pm	51,073	60,018	111,091
7-8pm	45,692	55,726	101,418
8-9pm	37,879	50,541	88,420
9-10pm	34,298	44,482	78,780
10-11pm	30,733	40,391	71,124
11-12pm	24,737	35,485	60,222
24 hrs	948,213	949,198	1,897,411
7-10am	189,309	130,800	320,109
10am-1pm	137,113	120,906	258,019
1-4pm	143,476	153,539	297,015
4-7pm	157,673	185,920	343,593
7am-7pm	627,571	591,165	1,218,736

\*\* Peak Volumes

## 2003 East & Harlem River Bridges 7am-7pm Two-Way Vehicle Classification

<b>EAST RIVER BRIDGES</b>	<b>Autos</b>	<b>Buses</b>	<b>Commuter Vans</b>	<b>Trucks</b>	<b>Commercial Vans</b>	<b>Total</b>
Brooklyn	73,192	253	2,814	49	3,088	79,396
Manhattan	20,773	1,060	4,350	10,419	7,344	43,946
Queensboro	83,970	2,316	5,909	5,875	10,299	108,369
Williamsburg	39,214	1,121	9,392	6,048	4,851	60,626
<b>Total East River</b>	<b>217,149</b>	<b>4,750</b>	<b>22,465</b>	<b>22,391</b>	<b>25,582</b>	<b>292,337</b>

### **HARLEM RIVER BRIDGES**

Alexander Hamilton	91,833	287	2,484	16,000	3,449	114,053
Broadway	23,802	753	396	726	897	26,574
Macombs Dam	24,497	373	307	1,212	2,154	28,543
Madison Avenue	23,159	1,303	1,081	1,302	1,716	28,561
Third Avenue	20,103	514	1,627	1,901	1,785	25,930
University Heights	28,926	379	989	1,101	1,763	33,158
Washington	37,036	1,097	986	1,243	1,717	42,079
Willis Avenue	33,972	659	1,092	2,365	2,770	40,858
145th Street	13,454	397	540	725	641	15,757
<b>Total Harlem River</b>	<b>296,782</b>	<b>5,762</b>	<b>9,502</b>	<b>26,575</b>	<b>16,892</b>	<b>355,513</b>

## 2003 MTABT & PANYNJ Facilities 24 Hour Two-Way Vehicle Classification

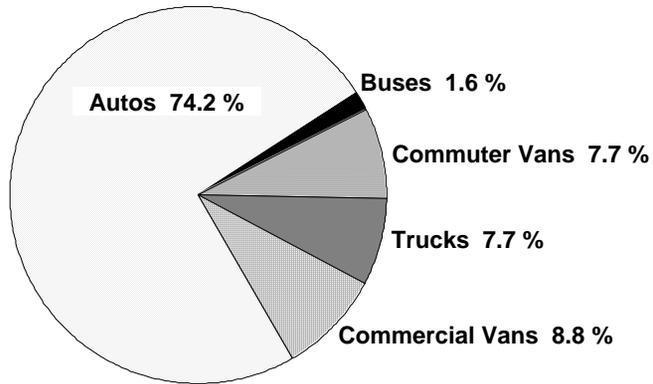
<b>MTABT FACILITIES</b>	<b>Autos*</b>	<b>Buses</b>	<b>Trucks</b>	<b>Total</b>
Brooklyn-Battery Tunnel	51,322	2,400	2,549	56,271
Henry Hudson Bridge	71,769	0	440	72,209
Queens-Midtown Tunnel	77,807	1,145	6,425	85,377
Triborough Bridge	89,289	949	2,939	93,177
<b>Total MTABT</b>	<b>290,187</b>	<b>4,494</b>	<b>12,353</b>	<b>307,034</b>

### **PANYNJ FACILITIES**

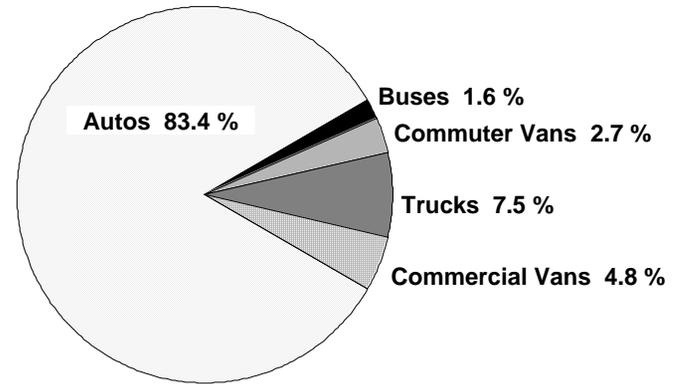
George Washington Bridge	285,391	3,602	30,036	319,029
Holland Tunnel	95,049	1,536	4,512	101,097
Lincoln Tunnel	106,526	13,429	7,368	127,323
<b>Total PANYNJ</b>	<b>486,966</b>	<b>18,567</b>	<b>41,916</b>	<b>547,449</b>

\* Light trucks & vans included with autos.

## 7am – 7pm Two-Way Classification

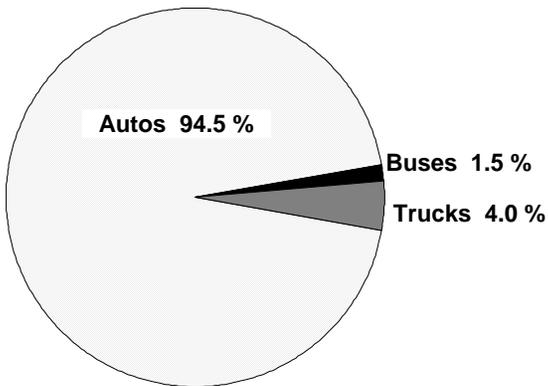


**East River Bridges**

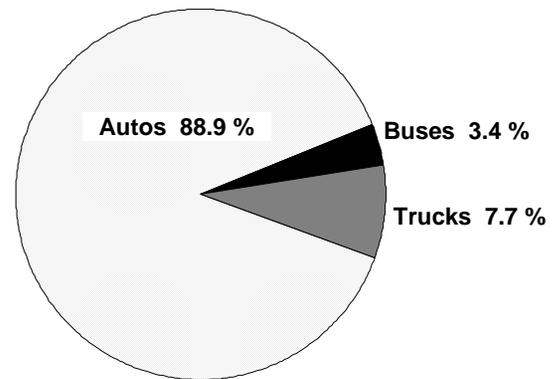


**Harlem River Bridges**

## 24-Hour Two-Way Classification



**MTABT Facilities**



**PANYNJ Facilities**

## ORIGINS AND DESTINATIONS OF MANHATTAN AUTO COMMUTERS

### *DESTINATIONS*

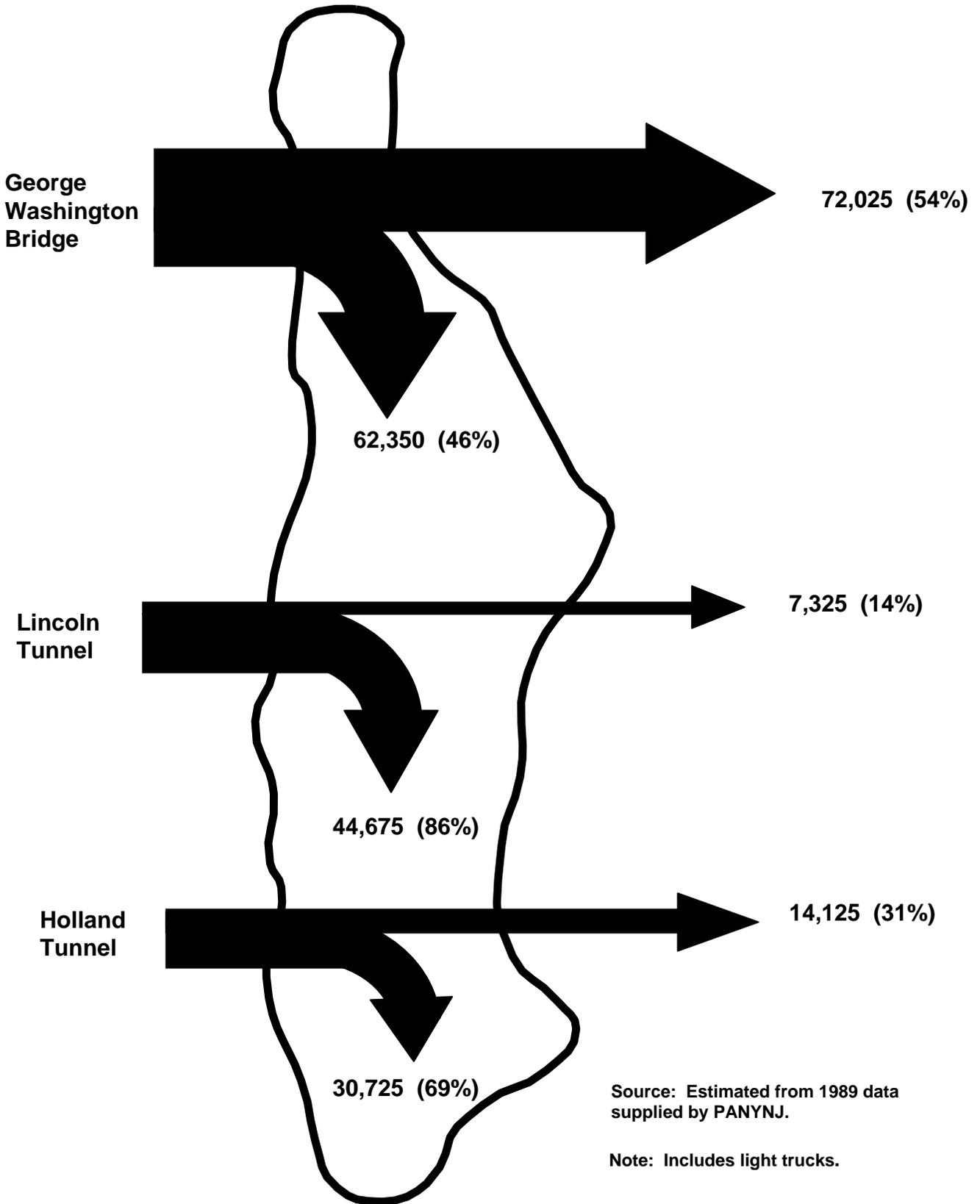
<b>ORIGINS</b>	<b>Manhattan CBD</b>	<b>Upper Manhattan</b>	<b>Total</b>
Bronx	7.8%	13.5%	9.0%
Brooklyn	13.7%	9.0%	12.7%
Manhattan	11.0%	17.6%	12.4%
Queens	18.7%	17.9%	18.5%
Staten Island	5.2%	2.1%	4.6%
<b>Subtotal NYC Origins</b>	<b>56.4%</b>	<b>60.1%</b>	<b>57.1%</b>
Long Island	10.4%	7.7%	9.9%
Upstate NY	10.9%	14.6%	11.7%
New Jersey	20.3%	15.9%	19.4%
Connecticut	1.5%	1.2%	1.4%
Pennsylvania	0.5%	0.5%	0.5%
<b>Subtotal Suburbs</b>	<b>43.6%</b>	<b>39.9%</b>	<b>42.9%</b>
<b>GRAND TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Definitions: CBD - Manhattan Central Business District (area south of and including 60th Street).

Upper Manhattan - Area of Manhattan north of 60th Street.

Source: PANYNJ, Commutation to Districts within Manhattan, October 31, 1994, analysis based on 1990 U.S. Census Journey to Work data.

# 2003 Thru vs. Local E/B Auto Trips via Hudson River Crossings



Source: Estimated from 1989 data supplied by PANYNJ.

Note: Includes light trucks.

## DESTINATIONS OF HUDSON RIVER CROSSINGS EASTBOUND AUTO TRAFFIC

### TOTAL OF HOLLAND TUNNEL, LINCOLN TUNNEL AND GEORGE WASHINGTON BRIDGE

1989

Eastbound Auto Destinations	6-7 am	7-10 am	4-7 pm	5 am - 11 pm
Manhattan				
Midtown	19.9%	23.6%	11.0%	17.5%
Valley	13.1%	13.4%	11.5%	13.4%
Downtown	12.0%	9.9%	5.8%	8.4%
CBD Total	45.0%	46.9%	28.2%	39.3%
Upper Manhattan	18.7%	19.5%	19.7%	19.9%
Manhattan Total	63.6%	66.4%	47.9%	59.2%
Bronx	9.7%	11.1%	11.3%	10.1%
Brooklyn	7.6%	4.7%	7.9%	6.3%
Queens	10.9%	8.1%	14.3%	11.3%
Westchester	3.0%	3.8%	6.4%	4.4%
Long Island	3.5%	4.2%	8.0%	5.7%
Other	1.6%	1.8%	4.2%	3.0%
Thru Trip Total	36.4%	33.6%	52.1%	40.8%
GRAND TOTAL	100.0%	100.0%	100.0%	100.0%

Source: PANYNJ, Vehicular Origin and Destination Survey - 1989, May 1990.

## DESTINATIONS OF HOLLAND TUNNEL EASTBOUND AUTO TRAFFIC

1989

Eastbound Auto Destinations	6-7 am	7-10 am	4-7 pm	5 am - 11 pm
Manhattan				
Midtown	6.8%	10.6%	6.6%	8.9%
Valley	15.3%	19.8%	23.4%	22.7%
Downtown	40.9%	38.8%	22.1%	29.9%
CBD Total	63.0%	69.1%	52.1%	61.5%
Upper Manhattan	5.1%	5.2%	7.9%	7.0%
Manhattan Total	68.1%	74.3%	60.0%	68.5%
Bronx	1.4%	0.9%	1.1%	0.9%
Brooklyn	17.6%	16.2%	22.8%	18.0%
Queens	9.7%	6.5%	12.1%	9.4%
Westchester	0.3%	0.6%	0.1%	0.2%
Long Island	2.0%	1.4%	2.7%	2.4%
Other	0.9%	0.1%	1.2%	0.6%
Thru Trip Total	31.9%	25.7%	40.0%	31.5%
GRAND TOTAL	100.0%	100.0%	100.0%	100.0%

Source: PANYNJ, Vehicular Origin and Destination Survey - 1989, May 1990.

## DESTINATIONS OF LINCOLN TUNNEL EASTBOUND AUTO TRAFFIC

1989

Eastbound Auto Destinations	6-7 am	7-10 am	4-7 pm	5 am - 11 pm
Manhattan				
Midtown	37.8%	45.8%	30.8%	38.9%
Valley	23.0%	25.5%	22.6%	23.8%
Downtown	8.9%	7.3%	4.2%	6.7%
CBD Total	69.8%	78.6%	57.6%	69.4%
Upper Manhattan	11.7%	11.3%	22.0%	16.5%
Manhattan Total	81.5%	89.9%	79.6%	85.9%
Bronx	0.8%	1.0%	1.0%	0.8%
Brooklyn	5.8%	3.0%	5.9%	4.2%
Queens	9.6%	4.1%	10.7%	7.0%
Westchester	0.2%	0.5%	0.5%	0.3%
Long Island	1.3%	1.4%	1.9%	1.4%
Other	0.8%	0.2%	0.4%	0.4%
Thru Trip Total	18.5%	10.1%	20.4%	14.1%
GRAND TOTAL	100.0%	100.0%	100.0%	100.0%

Source: PANYNJ, Vehicular Origin and Destination Survey - 1989, May 1990.

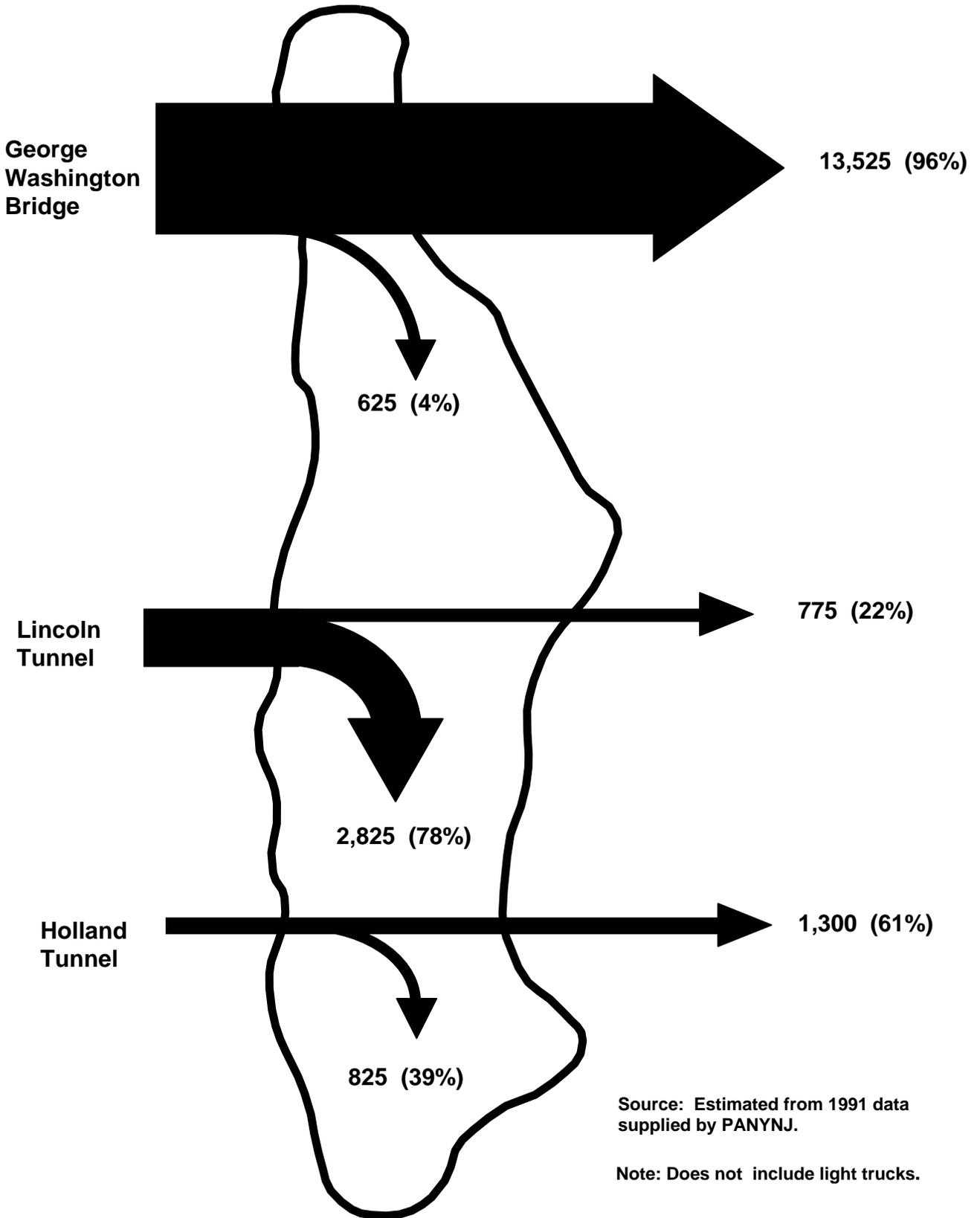
## DESTINATIONS OF GEORGE WASHINGTON BRIDGE EASTBOUND AUTO TRAFFIC

1989

Eastbound Auto Destinations	6-7 am	7-10 am	4-7 pm	5 am - 11 pm
Manhattan				
Midtown	15.6%	17.9%	7.3%	11.8%
Valley	8.5%	7.1%	5.6%	6.9%
Downtown	6.1%	4.2%	1.8%	3.0%
CBD Total	30.2%	29.2%	14.7%	21.7%
Upper Manhattan	24.9%	26.1%	22.2%	24.7%
Manhattan Total	55.1%	55.3%	36.9%	46.4%
Bronx	15.4%	17.4%	16.6%	16.2%
Brooklyn	5.9%	2.6%	4.5%	3.8%
Queens	11.8%	10.0%	15.8%	13.5%
Westchester	4.9%	5.9%	9.4%	7.2%
Long Island	4.7%	6.0%	10.9%	8.2%
Other	2.2%	2.8%	5.9%	4.7%
Thru Trip Total	44.9%	44.7%	63.1%	53.6%
GRAND TOTAL	100.0%	100.0%	100.0%	100.0%

Source: PANYNJ, Vehicular Origin and Destination Survey - 1989, May 1990.

# 2003 Thru vs. Local E/B Truck Trips via Hudson River Crossings



**DESTINATIONS OF HUDSON RIVER WEEKDAY EASTBOUND TRUCK TRAFFIC**  
**(December 1991)**

Destinations	Holland Tunnel	Lincoln Tunnel	G. Washington Bridge
Manhattan	38.91%	78.35%	4.46%
NY City outer boroughs			
Bronx	0.98%	0.29%	16.13%
Brooklyn	34.44%	9.20%	2.68%
Queens	16.67%	6.85%	10.96%
Staten Island	0.08%	0.00%	0.10%
Subtotal outer boroughs	52.18%	16.34%	29.87%
NY City Total	91.07%	94.69%	34.33%
Destinations outside NY City			
Long Island	8.32%	4.73%	17.26%
Westchester	0.21%	0.00%	7.62%
New England	0.23%	0.21%	37.87%
Other	0.16%	0.39%	2.92%
Subtotal outside NY City	8.93%	5.34%	65.67%
Thru Trips Total (non-Manhattan destinations)	61.09%	21.65%	95.54%
GRAND TOTAL	100.00%	100.00%	100.00%

Source: PANYNJ, 1991 Truck Origin-Destination Commodity Survey, March 1992.

## VEHICLE OCCUPANCY STUDY -- PEAK HOUR INBOUND TO MANHATTAN

Due to changes in travel patterns and restrictions on Manhattan vehicle entries following the events of 9/11/2001, occupancy data collected before 9/11/2001 may no longer be valid. As a result, this table exhibits occupancy data only for crossings surveyed after 9/11/2001. The note "not available post-9/11/2001," appears for other crossings for which occupancy data has traditionally been included in this publication. When new occupancy surveys are completed for those crossings, they will be reinstated in future publications.

### VEHICLE OCCUPANCY -- TO MANHATTAN

#### *Average Number of Persons per Auto (AM peak)*

	Auto Occupancy Survey Date		Peak Hour Persons per Auto	7-10 am Pct. Autos with Driver Only
Brooklyn-Battery Tunnel	Spring	2002	1.70	38.8%
Brooklyn Bridge	Fall	2003	1.15	79.9%
Manhattan Bridge	Fall	2003	1.27	71.9%
Williamsburg Bridge	Fall	2003	1.18	81.9%
Holland Tunnel	Fall	2002	1.94	35.0%
<b><i>Average of 5 Lower Manhattan Crossings</i></b>			<b>1.45</b>	<b>60.7%</b>
Queens-Midtown Tunnel			not available post-9/11/2001	
Queensboro Bridge	Fall	2003	1.37	66.0%
Lincoln Tunnel	Fall	2002	1.31	79.4%
<b><i>Average of 2 Midtown Manhattan Crossings</i></b>			<b>1.35</b>	<b>72.2%</b>
Triborough Bridge			not available post-9/11/2001	
Third Avenue Bridge			not available post-9/11/2001	
Macombs Dam Bridge			not available post-9/11/2001	
Washington Bridge			not available post-9/11/2001	
Henry Hudson Bridge			not available post-9/11/2001	
George Washington Bridge	Fall	2002	1.34	78.6%
<b>Overall Average of 8 Manhattan Crossings</b>			<b>1.39</b>	<b>69.4%</b>

# Manhattan Crossings

## 2002-2003 Traffic Volume Trends

### Both Directions

<b><i>EAST RIVER BRIDGES</i></b>	<b>Highway Functional Classification</b>	<b>2002</b>	<b>2003</b>	<b>Percent Change</b>
Brooklyn	Principal Arterial	121,145	134,444	11.0 %
Manhattan	Principal Arterial	66,152	73,767	11.5 %
Queensboro	Principal Arterial	176,419	184,964	4.8 %
Williamsburg	Principal Arterial	103,364	100,243	- 3.0 %
<b>Total East River</b>		<b>467,080</b>	<b>493,418</b>	<b>5.6 %</b>

#### ***HARLEM RIVER BRIDGES***

Alexander Hamilton	Interstate	168,079	182,704	8.7 %
Broadway	Principal Arterial	38,287	36,888	- 3.7 %
Macombs Dam	Principal Arterial	18,878	42,254	123.8 %
Madison Avenue	Principal Arterial	49,487	41,575	- 16.0 %
Third Avenue	Principal Arterial	58,949	43,065	- 26.9 %
University Heights	Principal Arterial	45,311	50,126	10.6 %
Washington	Minor Arterial	63,609	63,154	- 0.7 %
Willis Avenue	Principal Arterial	73,435	66,710	- 9.2 %
145th Street	Minor Arterial	35,796	23,034	- 35.7 %
<b>Total Harlem River</b>		<b>551,831</b>	<b>549,510</b>	<b>- 0.4 %</b>

#### ***MTABT Manhattan Facilities***

Brooklyn-Battery Tunnel	Interstate	56,976	56,271	- 1.2 %
Henry Hudson Bridge	Principal Arterial	70,731	72,209	2.1 %
Queens-Midtown Tunnel	Interstate	82,834	85,377	3.1 %
Triborough Bridge Manhattan Plaza	Principal Arterial	94,759	93,177	- 1.7 %
<b>Total MTABT Manhattan</b>		<b>305,300</b>	<b>307,034</b>	<b>0.6 %</b>

#### ***PANYNJ Manhattan Facilities***

George Washington Bridge	Interstate	310,771	319,029	2.7 %
Holland Tunnel	Interstate	92,557	101,097	9.2 %
Lincoln Tunnel	Principal Arterial	129,511	127,323	- 1.7 %
<b>Total Manhattan - New Jersey</b>		<b>532,839</b>	<b>547,449</b>	<b>2.7 %</b>

<b>GRAND TOTALS</b>		<b>1,857,050</b>	<b>1,897,411</b>	<b>2.2 %</b>
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**Manhattan Crossings  
Hourly Vehicular Volumes  
2002 vs 2003**

	<i>Inbound</i>			<i>Outbound</i>		
	2002	2003	Percent Change	2002	2003	Percent Change
Mid-1	15,881	15,924	0.3 %	26,244	27,039	3.0 %
1-2 am	10,473	10,271	-1.9 %	16,361	16,510	0.9 %
2-3 am	8,177	8,308	1.6 %	11,424	11,576	1.3 %
3-4 am	8,484	8,591	1.3 %	9,810	9,828	0.2 %
4-5 am	12,744	13,327	4.6 %	12,041	11,845	-1.6 %
5-6 am	31,580	32,024	1.4 %	19,168	19,834	3.5 %
6-7 am	58,440	58,858	0.7 %	33,557	34,776	3.6 %
7-8 am	67,769	67,533	-0.3 %	42,361	44,001	3.9 %
8-9 am	63,970	64,848	1.4 %	43,521	45,176	3.8 %
9-10 am	55,982	56,928	1.7 %	37,983	41,623	9.6 %
10-11 a	48,702	48,866	0.3 %	36,716	39,219	6.8 %
11-Noon	43,936	44,977	2.4 %	36,934	40,414	9.4 %
Noon-1	42,780	43,270	1.1 %	39,232	41,273	5.2 %
1-2 pm	42,397	44,354	4.6 %	42,132	44,523	5.7 %
2-3 pm	46,195	47,821	3.5 %	49,521	50,748	2.5 %
3-4 pm	49,414	51,301	3.8 %	59,119	58,268	-1.4 %
4-5 pm	51,603	52,579	1.9 %	64,019	63,259	-1.2 %
5-6 pm	52,739	54,021	2.4 %	63,440	62,643	-1.3 %
6-7 pm	50,862	51,073	0.4 %	61,359	60,018	-2.2 %
7-8 pm	45,166	45,692	1.2 %	54,972	55,726	1.4 %
8-9 pm	36,097	37,879	4.9 %	48,939	50,541	3.3 %
9-10 pm	32,749	34,298	4.7 %	43,292	44,482	2.7 %
10-11 p	30,004	30,733	2.4 %	39,322	40,391	2.7 %
11-Mid	25,061	24,737	-1.3 %	34,378	35,485	3.2 %
Totals	931,205	948,213	1.8 %	925,845	949,198	2.5 %
7-10am	187,721	189,309	0.8 %	123,865	130,800	5.6 %
10am-1pm	135,418	137,113	1.3 %	112,882	120,906	7.1 %
1-4pm	138,006	143,476	4.0 %	150,772	153,539	1.8 %
4-7pm	155,204	157,673	1.6 %	188,818	185,920	-1.5 %
7am-7pm	616,349	627,571	1.8 %	576,337	591,165	2.6 %

## Manhattan Crossings Hourly Vehicular Volumes 1993 vs 2003

	<i>Inbound</i>			<i>Outbound</i>		
	1993	2003	Percent Change	1993	2003	Percent Change
Mid-1	14,140	15,924	12.6 %	24,462	27,039	10.5 %
1-2 am	8,561	10,271	20.0 %	13,993	16,510	18.0 %
2-3 am	6,798	8,308	22.2 %	9,566	11,576	21.0 %
3-4 am	6,490	8,591	32.4 %	7,292	9,828	34.8 %
4-5 am	9,320	13,327	43.0 %	7,962	11,845	48.8 %
5-6 am	21,122	32,024	51.6 %	13,143	19,834	50.9 %
6-7 am	52,347	58,858	12.4 %	27,097	34,776	28.3 %
7-8 am	66,866	67,533	1.0 %	38,599	44,001	14.0 %
8-9 am	65,208	64,848	-0.6 %	41,278	45,176	9.4 %
9-10 am	57,873	56,928	-1.6 %	34,336	41,623	21.2 %
10-11 a	47,917	48,866	2.0 %	34,259	39,219	14.5 %
11-Noon	43,435	44,977	3.6 %	35,212	40,414	14.8 %
Noon-1	41,143	43,270	5.2 %	36,181	41,273	14.1 %
1-2 pm	40,579	44,354	9.3 %	38,802	44,523	14.7 %
2-3 pm	43,408	47,821	10.2 %	45,309	50,748	12.0 %
3-4 pm	46,873	51,301	9.4 %	56,035	58,268	4.0 %
4-5 pm	48,034	52,579	9.5 %	61,294	63,259	3.2 %
5-6 pm	49,498	54,021	9.1 %	61,099	62,643	2.5 %
6-7 pm	47,762	51,073	6.9 %	58,355	60,018	2.8 %
7-8 pm	41,446	45,692	10.2 %	52,870	55,726	5.4 %
8-9 pm	32,779	37,879	15.6 %	46,391	50,541	8.9 %
9-10 pm	29,818	34,298	15.0 %	40,401	44,482	10.1 %
10-11 p	28,948	30,733	6.2 %	37,365	40,391	8.1 %
11-Mid	23,934	24,737	3.4 %	33,808	35,485	5.0 %
Totals	874,299	948,213	8.5 %	855,109	949,198	11.0 %
7-10am	189,947	189,309	-0.3 %	114,213	130,800	14.5 %
10am-1pm	132,495	137,113	3.5 %	105,652	120,906	14.4 %
1-4pm	130,860	143,476	9.6 %	140,146	153,539	9.6 %
4-7pm	145,294	157,673	8.5 %	180,748	185,920	2.9 %
7am-7pm	598,596	627,571	4.8 %	540,759	591,165	9.3 %

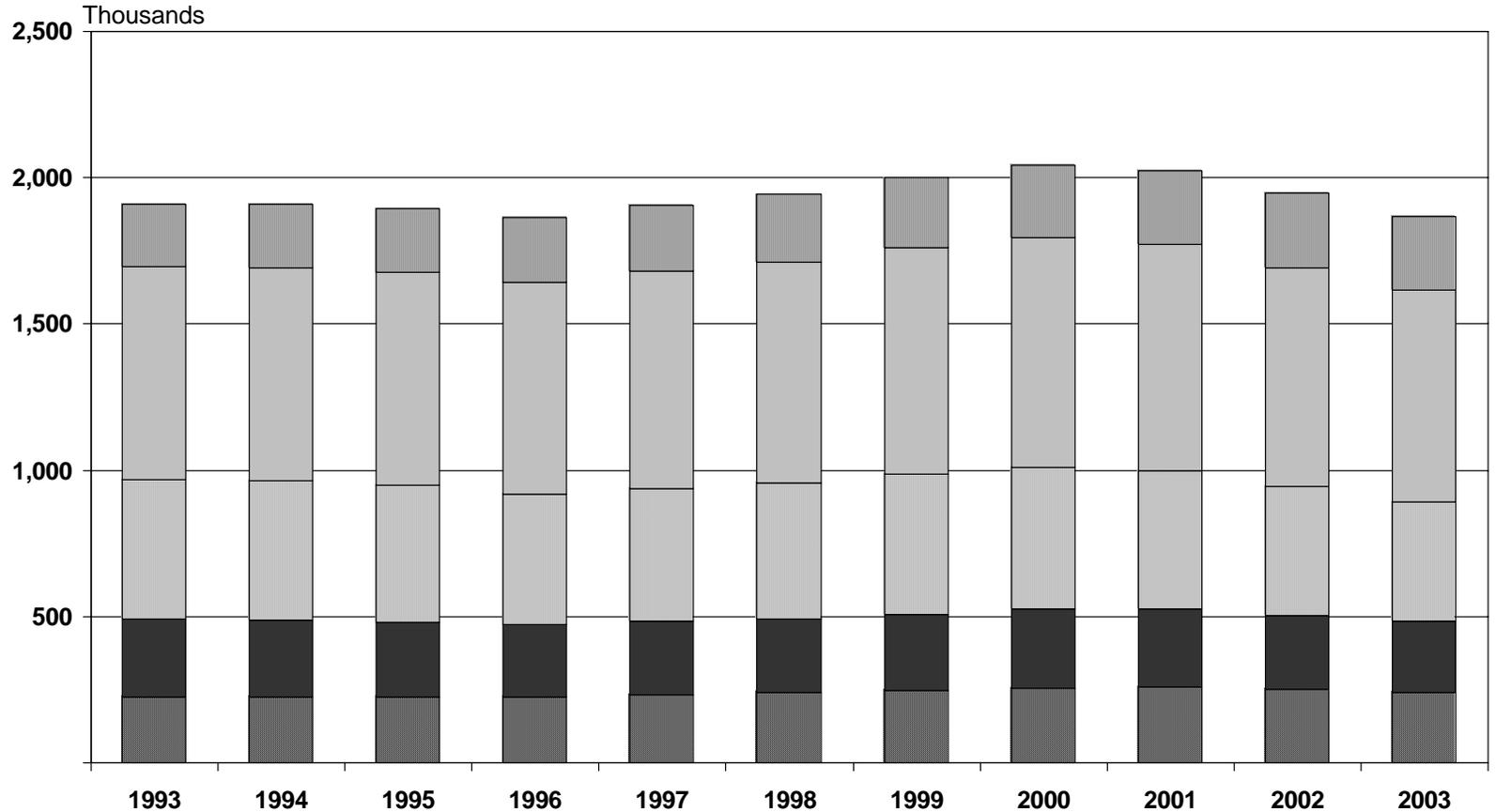
**Percent Difference by Period of Day  
Manhattan Crossings  
1993 - 2003**

<i>Time Period</i>	<i>To Manhattan</i>	<i>From Manhattan</i>
1am - 4am	24.4 %	22.9 %
4am - 7am	25.9 %	37.9 %
7am - 10am	- 0.3 %	14.5 %
10am - 1pm	3.5 %	14.4 %
1pm - 4pm	9.6 %	9.6 %
4pm - 7pm	8.5 %	2.9 %
7pm - 10pm	13.3 %	7.9 %
10pm - 1am	6.5 %	7.6 %
<b>24 Hour Total</b>	<b>8.5 %</b>	<b>11.0 %</b>

**Average Annual Growth Rate by Period of Day  
Manhattan Crossings  
1993 - 2003**

<i>Time Period</i>	<i>To Manhattan</i>	<i>From Manhattan</i>
1am - 4am	3.1 %	2.9 %
4am - 7am	1.8 %	3.1 %
7am - 10am	- 0.5 %	0.9 %
10am - 1pm	0.5 %	0.9 %
1pm - 4pm	0.7 %	0.8 %
4pm - 7pm	0.8 %	0.4 %
7pm - 10pm	1.4 %	0.8 %
10pm - 1am	1.1 %	1.2 %
<b>24 Hour Total</b>	<b>0.7 %</b>	<b>1.0 %</b>

# New York City Motor Vehicle Registrations 1993-2003



	Staten Is.	214,434	216,624	218,095	220,987	226,808	232,790	240,258	247,848	252,657	252,542	252,422
	Queens	728,402	727,167	727,175	721,961	742,288	754,729	773,921	784,848	774,887	749,146	723,400
	Brooklyn	477,996	476,612	469,105	448,116	455,177	463,637	479,118	486,987	470,290	439,716	410,742
	Bronx	264,391	260,974	254,944	245,225	248,191	252,189	260,742	268,910	269,577	255,087	240,592
	Manhattan	225,582	226,287	226,480	226,028	234,175	239,308	247,395	255,780	257,531	249,716	241,995
	<b>NYC Total</b>	<b>1,910,805</b>	<b>1,907,664</b>	<b>1,895,799</b>	<b>1,862,317</b>	<b>1,906,639</b>	<b>1,942,653</b>	<b>2,001,434</b>	<b>2,044,373</b>	<b>2,024,942</b>	<b>1,946,207</b>	<b>1,869,151</b>

NYC Annual Growth Rate = 0.4%

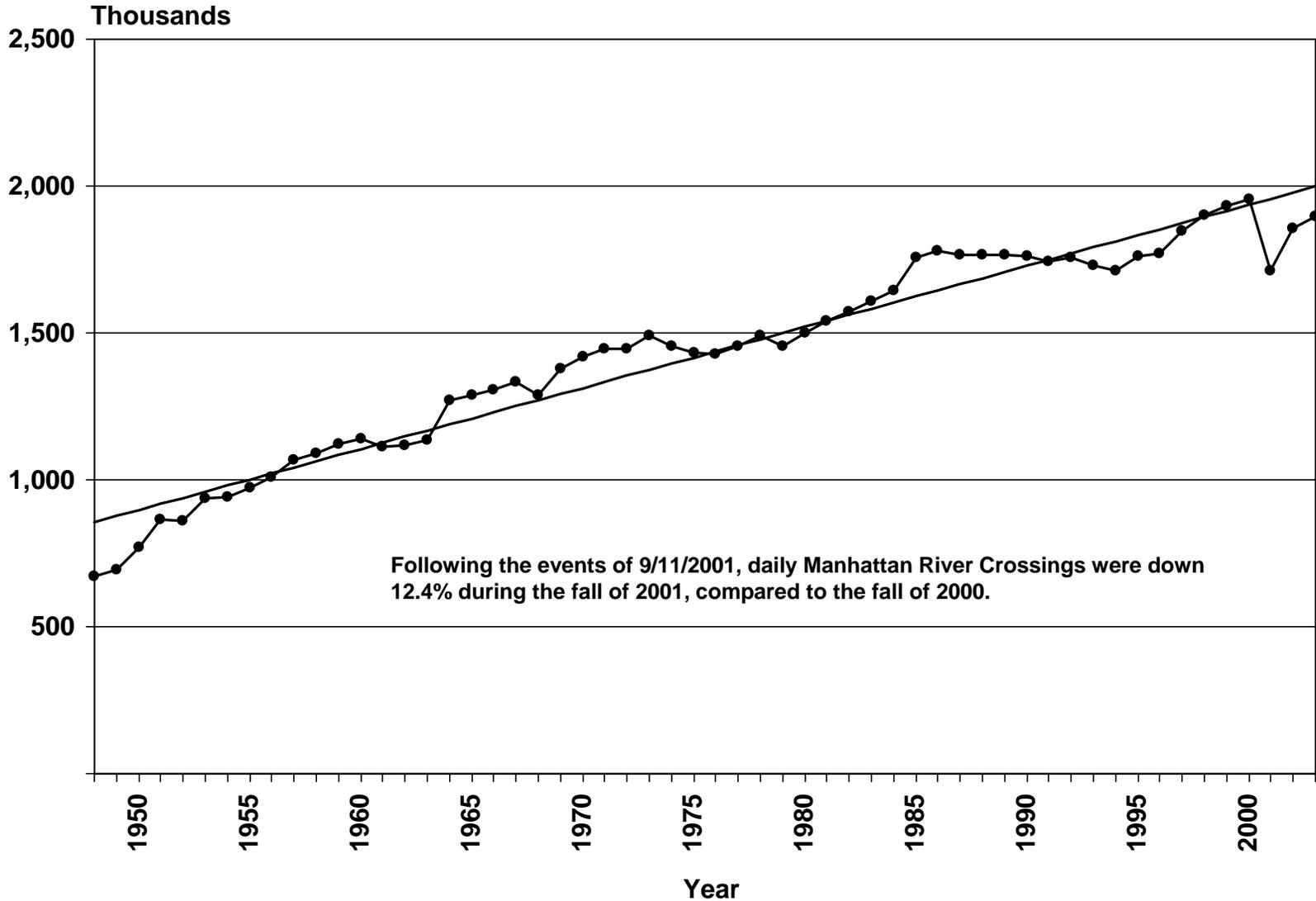
Manhattan Annual Growth Rate = 1.3%

**Total Manhattan Crossings  
Average Daily Traffic Volumes  
1948 - 2003**

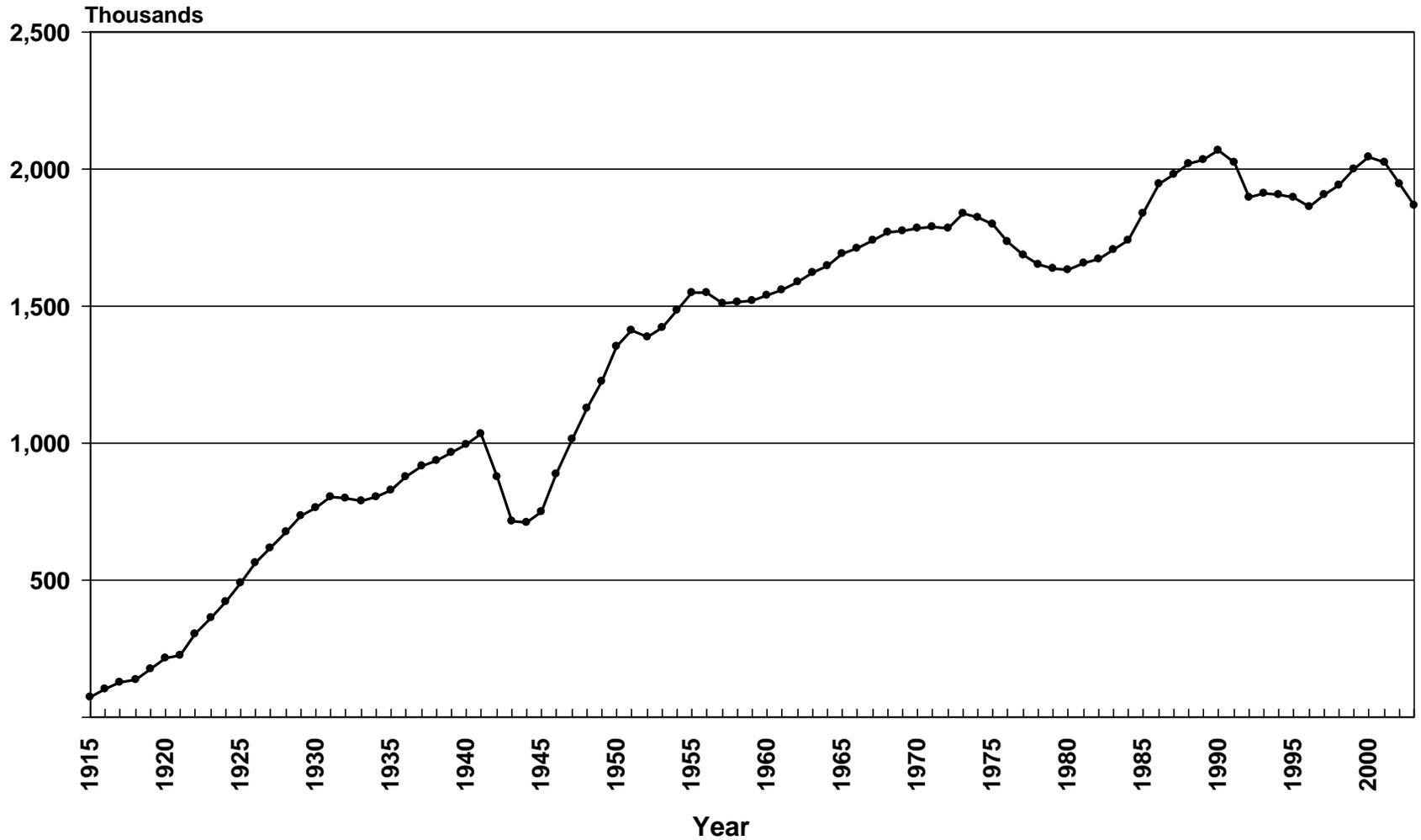
<b>Year</b>	<b>East River Bridges</b>	<b>Harlem River Bridges</b>	<b>M.T.A.B.T. Facilities</b>	<b>P.A.N.Y.N.J. Facilities</b>	<b>Totals</b>
1948	254,068	207,177	92,977	115,785	670,007
1949	260,933	193,510	110,071	129,943	694,457
1950	240,227	222,671	161,856	146,653	771,407
1951	269,352	249,199	180,272	166,150	864,973
1952	261,704	222,196	194,327	181,253	859,480
1953	292,726	248,629	200,535	194,577	936,467
1954	297,903	236,056	204,616	202,394	940,969
1955	293,633	250,239	216,835	211,926	972,633
1956	297,866	266,781	231,535	213,088	1,009,270
1957	297,028	316,530	236,343	218,623	1,068,524
1958	304,470	329,747	232,413	221,494	1,088,124
1959	312,431	342,349	231,501	237,021	1,123,302
1960	322,660	345,199	230,768	239,620	1,138,247
1961	316,813	333,463	227,241	236,833	1,114,350
1962	318,170	313,230	233,010	250,646	1,115,056
1963	333,880	309,090	225,100	265,603	1,133,673
1964	341,030	407,680	236,513	285,824	1,271,047
1965	353,518	401,259	240,949	293,339	1,289,065
1966	355,745	402,487	243,107	303,981	1,305,320
1967	352,936	427,744	244,038	308,153	1,332,871
1968	357,232	362,095	247,924	320,292	1,287,543
1969	379,416	412,992	254,863	329,123	1,376,394
1970	371,743	429,690	271,063	347,838	1,420,334
1971	364,070	432,195	286,692	362,063	1,445,020
1972	390,292	422,364	252,871	378,620	1,444,147
1973	394,290	449,670	251,593	397,203	1,492,756
1974	394,631	439,112	242,846	376,547	1,453,136
1975	404,379	440,354	214,120	374,707	1,433,560
1976	398,248	429,629	217,207	381,250	1,426,334
1977	398,140	442,200	229,766	385,013	1,455,119
1978	400,146	450,758	241,125	399,512	1,491,541
1979	382,028	427,816	251,544	393,724	1,455,112
1980	392,460	446,292	255,858	404,734	1,499,344
1981	395,125	448,323	269,854	427,381	1,540,683
1982	414,984	470,785	253,499	433,744	1,573,012
1983	413,152	491,153	263,510	441,164	1,608,979
1984	428,541	496,949	262,985	453,775	1,642,250
1985	476,032	538,263	275,858	468,452	1,758,605
1986	469,711	546,896	274,693	485,751	1,777,051
1987	460,092	530,228	289,642	486,639	1,766,601
1988	460,858	520,282	293,550	490,179	1,764,869
1989	461,102	539,381	275,358	487,693	1,763,534
1990	448,713	539,563	289,066	482,243	1,759,585
1991	447,969	533,368	295,265	467,501	1,744,103
1992	443,145	537,353	300,203	476,872	1,757,573
1993	431,874	542,306	282,159	473,069	1,729,408
1994	448,263	526,044	263,351	473,799	1,711,457
1995	464,903	521,882	293,574	482,098	1,762,457
1996	463,482	530,950	281,116	493,194	1,768,742
1997	511,410	546,750	283,686	504,788	1,846,634
1998	523,690	560,062	293,990	522,512	1,900,254
1999	516,507	563,182	303,966	549,352	1,933,007
2000	514,767	578,770	313,504	548,465	1,955,506
2001	427,321	568,759	257,937	458,944	1,712,961
2002	467,080	551,831	305,300	532,839	1,857,050
2003	493,418	549,510	307,034	547,449	1,897,411

# Average Daily Manhattan River Crossings

1948-2003 Average Annual Growth Rate 1.6%



# New York City Motor Vehicle Registrations 1915-2003



Note: As of 1992, registration data are not strictly comparable to earlier data because of a revised method adopted by NY State Department of Motor Vehicles.

## 10-Year Traffic Growth Rate Trends Manhattan Crossings 1953-2003

<b>East River Bridges</b>	<b>1953-1963</b>	<b>1963-1973</b>	<b>1973-1983</b>	<b>1983-1993</b>	<b>1993-2003</b>
Brooklyn	11.4%	3.1%	0.8%	1.5%	- 1.1%
Manhattan	- 4.2%	1.9%	1.8%	- 2.4%	- 0.7%
Queensboro	1.3%	1.4%	- 1.1%	- 0.1%	2.4%
Williamsburg	0.3%	- 0.6%	0.5%	0.4%	1.4%
<b>Total</b>	<b>1.3%</b>	<b>1.5%</b>	<b>0.3%</b>	<b>0.1%</b>	<b>0.7%</b>

<b>Harlem River Bridges</b>					
Alexander Hamilton	<i>Opened January 1963</i>		1.4%	1.2%	- 0.2%
Broadway	3.3%	1.6%	2.4%	2.5%	0.7%
Macombs Dam	3.0%	0.8%	1.3%	- 1.8%	- 2.8%
Madison Avenue	- 1.7%	0.7%	- 0.7%	- 0.4%	8.2%
Third Avenue	6.4%	- 2.2%	0.4%	0.9%	- 1.9%
University Heights	4.3%	2.0%	- 0.2%	- 0.5%	4.3%
Washington	4.0%	1.2%	- 0.5%	2.0%	1.7%
Willis Avenue	4.2%	- 1.9%	0.7%	0.4%	0.3%
145th Street	0.1%	- 2.2%	0.4%	0.3%	2.0%
<b>Total</b>	<b>3.2%</b>	<b>2.0%</b>	<b>0.8%</b>	<b>0.7%</b>	<b>0.7%</b>

<b>MTABT Facilities</b>					
Brooklyn-Battery Tunnel	0.3%	0.7%	2.7%	0.0%	- 2.1%
Henry Hudson Bridge	- 2.6%	- 1.0%	- 1.6%	5.2%	2.5%
Queens-Midtown Tunnel	5.9%	1.8%	1.2%	0.4%	1.4%
Triborough (Manhattan Plz)	1.4%	3.3%	2.0%	0.1%	1.1%
<b>Total</b>	<b>1.1%</b>	<b>1.5%</b>	<b>1.4%</b>	<b>1.0%</b>	<b>0.9%</b>

<b>PANYNJ Facilities</b>					
George Washington Bridge	3.1%	5.7%	1.6%	0.0%	2.4%
Holland Tunnel	0.8%	0.8%	1.5%	2.5%	- 1.1%
Lincoln Tunnel	4.2%	2.3%	1.2%	0.2%	0.5%
<b>Total</b>	<b>2.8%</b>	<b>3.9%</b>	<b>1.5%</b>	<b>0.5%</b>	<b>1.3%</b>

<b>Grand Total</b>	<b>2.1%</b>	<b>2.2%</b>	<b>0.9%</b>	<b>0.5%</b>	<b>0.9%</b>
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## Average Daily Manhattan River Motor Vehicle Crossings

vs.

## Annual Subway Ridership

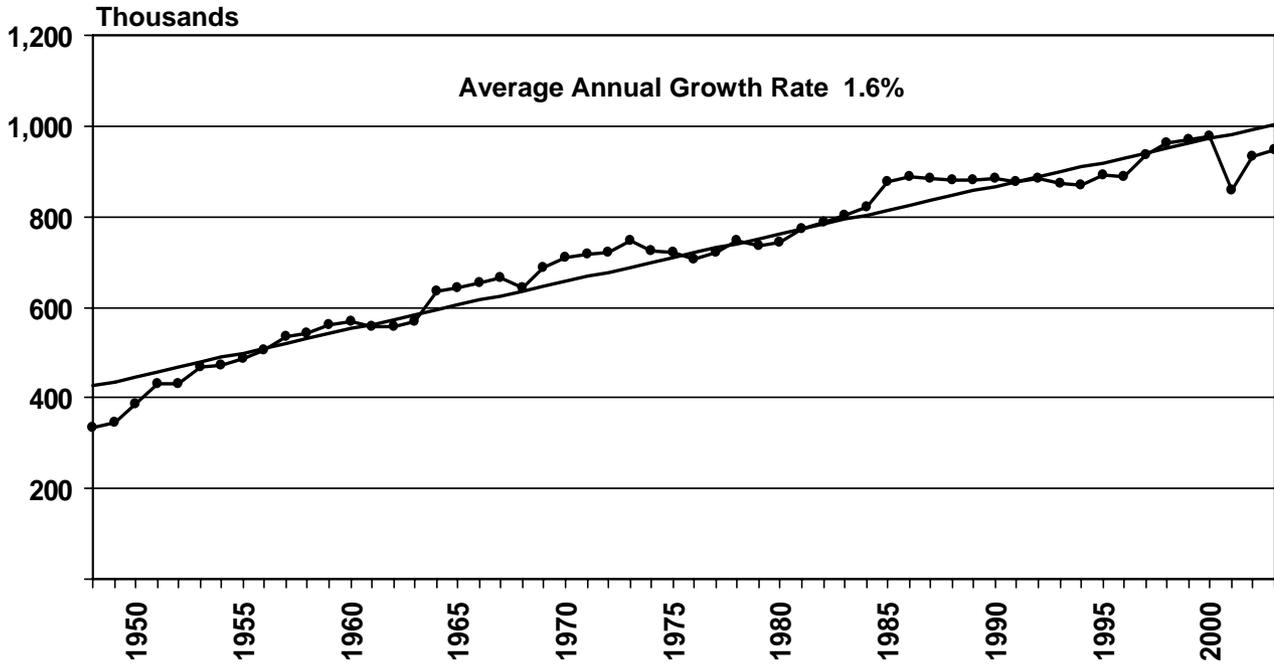
Year	Daily Manhattan River Crossings	Annual Subway Ridership (millions)	Year	Daily Manhattan River Crossings	Annual Subway Ridership (millions)
1948	670,007	2,031			
1949	694,457	1,764			
1950	771,407	1,681			
1951	864,973	1,636	1981	1,540,683	1,011
1952	859,480	1,574	1982	1,573,012	989
1953	936,467	1,552	1983	1,608,979	1,005
1954	940,969	1,416	1984	1,642,250	997
1955	972,633	1,378	1985	1,758,605	1,010
1956	1,009,270	1,363	1986	1,777,051	1,030
1957	1,068,524	1,355	1987	1,766,601	1,058
1958	1,088,124	1,319	1988	1,764,869	1,074
1959	1,123,302	1,324	1989	1,763,534	1,073
1960	1,138,247	1,345	1990	1,759,585	1,028
1961	1,114,350	1,363	1991	1,744,103	995
1962	1,115,056	1,370	1992	1,757,573	997
1963	1,133,673	1,362	1993	1,729,408	1,030
1964	1,271,047	1,375	1994	1,711,457	1,081
1965	1,289,065	1,363	1995	1,762,457	1,093
1966	1,305,320	1,296	1996	1,768,742	1,110
1967	1,332,871	1,298	1997	1,846,634	1,130
1968	1,287,543	1,303	1998	1,900,254	1,199
1969	1,376,394	1,330	1999	1,933,007	1,283
1970	1,420,334	1,258	2000	1,955,506	1,381
1971	1,445,020	1,197	2001	1,712,961	1,405
1972	1,444,147	1,145	2002	1,857,050	1,413
1973	1,492,756	1,102	2003	1,897,411	1,384
1974	1,453,136	1,100			
1975	1,433,560	1,054			
1976	1,426,334	1,010			
1977	1,455,119	998			
1978	1,491,541	1,042			
1979	1,455,112	1,077			
1980	1,499,344	1,009			

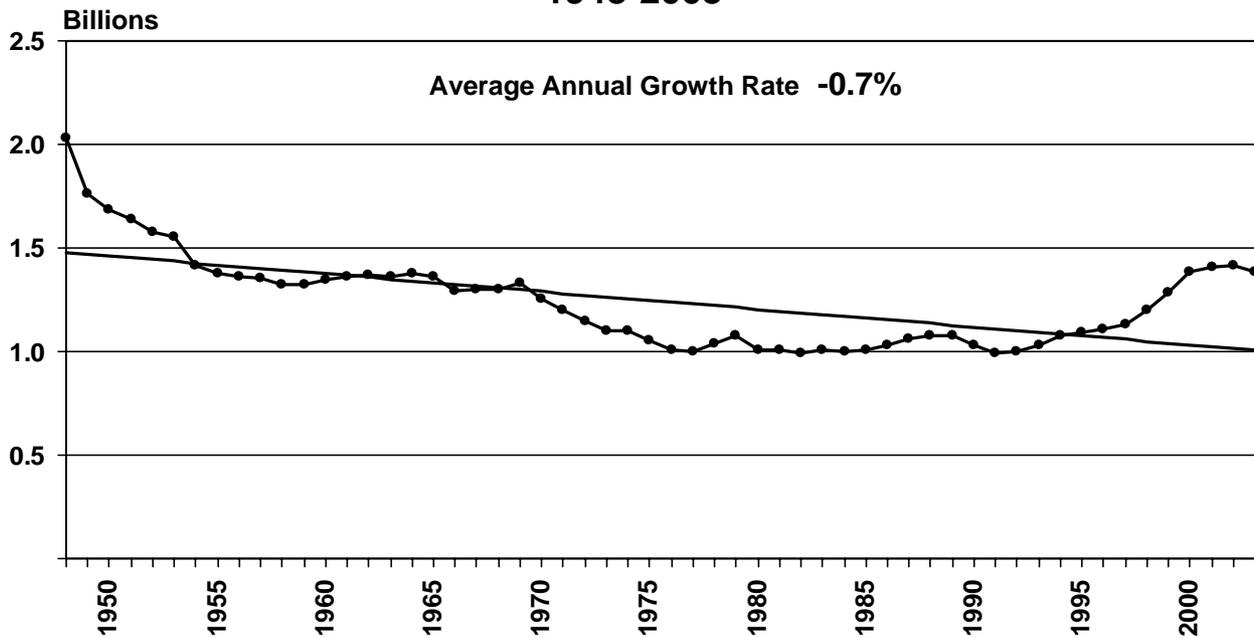
Percent Changes	Average Daily Crossings	Annual Subway Ridership	Period	Average Daily Crossings	Annual Subway Ridership
	+ 47.6 %	- 20.0 %	1950-1960	+ 11.1 %	+ 34.3 %
	+ 24.8 %	- 6.5 %	1960-1970	- 3.0 %	+ 0.2 %
	+ 5.6 %	- 19.8 %	1970-1980	+183.2 %	- 31.9 %
	+ 17.4 %	+ 1.9 %	1980-1990		

Source for Annual Subway Ridership: MTA

# Daily Traffic Flow to Manhattan 1948-2003



# N.Y.C. Annual Subway Passengers 1948-2003



## PAST & PRESENT PASSENGER CAR TOLL STRUCTURES

### MTA BRIDGES & TUNNELS FACILITIES

#### *Tolls collected both directions*

	Brooklyn Battery Tunnel	Queens Midtown Tunnel	Triborough Bridge	Henry Hudson Bridge
Prior to Jan. 1972	\$ 0.35	\$ 0.25	\$ 0.25	\$ 0.10
Jan. 1972	0.70	0.50	0.50	0.25
Sep. 1975	0.75	0.75	0.75	0.50
May 1980	1.00	1.00	1.00	0.60
Apr. 1982	1.25	1.25	1.25	0.90
Jan. 1984	1.50	1.50	1.50	0.90
Jan. 1986	1.75	1.75	1.75	1.00
Feb. 1987	2.00	2.00	2.00	1.00
July 1989	2.50	2.50	2.50	1.25
Jan. 1993	3.00	3.00	3.00	1.50
Mar. 1996	3.50	3.50	3.50	1.75
May 2003	4.00	4.00	4.00	2.00

\$0.50 discount on all MTABT facilities with *EZ Pass*.

### PORT AUTHORITY OF NEW YORK & NEW JERSEY

#### *Tolls collected eastbound only*

	George Washington Bridge	Holland Tunnel	Lincoln Tunnel
Aug. 1970	\$ 1.00	\$ 1.00	\$ 1.00
May 1975	1.50	1.50	1.50
Jan. 1984	2.00	2.00	2.00
Apr. 1987	3.00	3.00	3.00
Apr. 1991	4.00	4.00	4.00
Mar. 2001	6.00	6.00	6.00

\$1.00 discount on PANYNJ facilities with *EZ Pass* weekdays 6-9am & 4-7pm, and weekends noon-8pm.

\$2.00 discount on PANYNJ facilities with *EZ Pass* during all other hours.

One way toll collection system initiated on PANYNJ facilities August 12, 1970. Prior to that, tolls of \$ 0.50 were collected each way from date each facility opened.

**East River Bridges**  
**Average Daily Traffic Volumes**  
**1948 - 2003**

<i>Year</i>	<i>Brooklyn Bridge</i>	<i>Manhattan Bridge</i>	<i>Queensboro Bridge</i>	<i>Williamsburg Bridge</i>	<i>Totals</i>
1948	37,011	86,717	83,201	47,139	254,068
1949	37,244	80,420	88,821	54,448	260,933
1950	13,397	84,027	84,863	57,940	240,227
1951	14,865	100,826	90,922	62,739	269,352
1952	16,907	96,476	85,748	62,573	261,704
1953	14,513	94,320	106,391	77,502	292,726
1954	42,455	77,698	101,285	76,465	297,903
1955	53,964	66,968	91,958	80,743	293,633
1956	54,981	69,656	90,786	82,443	297,866
1957	23,852	89,793	93,676	89,707	297,028
1958	43,089	82,128	100,555	78,698	304,470
1959	53,115	74,329	103,522	81,465	312,431
1960	73,486	60,481	107,536	81,157	322,660
1961	68,997	62,797	104,505	80,514	316,813
1962	78,850	51,450	105,930	81,940	318,170
1963	78,770	58,510	116,350	80,250	333,880
1964	80,230	59,250	120,900	80,650	341,030
1965	84,141	71,222	117,588	80,567	353,518
1966	89,124	63,693	122,896	80,032	355,745
1967	87,387	75,741	124,033	65,775	352,936
1968	72,475	79,906	130,777	74,074	357,232
1969	97,565	75,473	132,553	73,825	379,416
1970	100,050	72,077	126,554	73,062	371,743
1971	102,535	68,681	120,555	72,299	364,070
1972	103,815	73,803	136,455	76,219	390,292
1973	102,834	73,401	138,066	79,989	394,290
1974	99,959	77,198	138,560	78,914	394,631
1975	103,750	74,320	144,252	82,057	404,379
1976	102,590	68,057	145,130	82,471	398,248
1977	104,532	64,835	146,283	82,490	398,140
1978	104,848	74,257	138,415	82,626	400,146
1979	91,319	75,403	133,966	81,340	382,028
1980	103,954	77,914	127,929	82,663	392,460
1981	102,572	79,589	127,864	85,100	395,125
1982	110,991	87,760	136,864	79,369	414,984
1983	115,825	85,222	125,158	86,947	413,152
1984	110,432	89,104	134,107	94,898	428,541
1985	116,929	100,825	150,892	107,386	476,032
1986	126,555	77,784	158,191	107,181	469,711
1987	123,523	77,519	151,688	107,362	460,092
1988	129,153	75,221	153,841	102,643	460,858
1989	131,951	68,593	152,591	107,967	461,102
1990	129,626	69,550	140,063	109,474	448,713
1991	128,491	72,695	131,438	115,345	447,969
1992	125,643	78,117	141,078	98,307	443,145
1993	134,793	74,526	135,964	86,591	431,874
1994	134,837	78,418	151,483	83,525	448,263
1995	131,883	75,126	157,306	100,588	464,903
1996	131,872	81,075	161,965	88,570	463,482
1997	147,898	83,209	184,179	96,124	511,410
1998	144,131	78,172	192,119	109,268	523,690
1999	127,065	92,311	189,190	107,941	516,507
2000	147,767	75,684	182,940	108,376	514,767
2001	95,586	73,064	176,469	82,202	427,321
2002	121,145	66,152	176,419	103,364	467,080
2003	134,444	73,767	184,964	100,243	493,418

## Hourly Vehicular Volumes Brooklyn Bridge - 2003

	<i>Eastbound to Brooklyn</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	
12-1am	---	---	---	---	---	2,724	---	---	---	---	---	1,525	4,249
1-2am	---	---	---	---	---	1,548	---	---	---	---	---	926	2,474
2-3am	---	---	---	---	---	992	---	---	---	---	---	616	1,608
3-4am	---	---	---	---	---	724	---	---	---	---	---	602	1,326
4-5am	---	---	---	---	---	782	---	---	---	---	---	1,058	1,840
5-6am	---	---	---	---	---	1,341	---	---	---	---	---	2,771	4,112
6-7am	---	---	---	---	---	2,473	---	---	---	---	---	3,869	6,342
7-8am	2,788	2	119	1	73	2,983	3,710	19	37	3	258	4,027 **	7,010
8-9am	2,821	32	133	0	95	3,081	3,587	6	59	8	218	3,878	6,959
9-10am	2,528	21	83	2	148	2,782	3,047	5	58	4	293	3,407	6,189
10-11am	2,322	4	93	0	140	2,559	2,743	3	126	7	153	3,032	5,591
11-12am	2,468	1	102	0	78	2,649	2,632	7	147	4	164	2,954	5,603
12-1pm	2,514	1	124	3	125	2,767	2,794	0	125	3	126	3,048	5,815
1-2pm	2,743	1	161	0	115	3,020	2,811	58	140	3	151	3,163	6,183
2-3pm	3,280	11	96	1	125	3,513	3,056	5	191	1	125	3,378	6,891
3-4pm	3,485	21	63	0	74	3,643	3,248	11	142	0	133	3,534	7,177
4-5pm	3,502	11	90	0	37	3,640	3,251	6	234	1	111	3,603	7,243
5-6pm	3,598	4	93	1	24	3,720	3,378	17	178	1	166	3,740	7,460 **
6-7pm	3,673	3	75	5	44	3,800	3,213	4	145	1	112	3,475	7,275
7-8pm	---	---	---	---	---	3,851	---	---	---	---	---	3,173	7,024
8-9pm	---	---	---	---	---	3,897 **	---	---	---	---	---	3,255	7,152
9-10pm	---	---	---	---	---	3,769	---	---	---	---	---	3,207	6,976
10-11pm	---	---	---	---	---	3,420	---	---	---	---	---	2,974	6,394
11-12pm	---	---	---	---	---	3,283	---	---	---	---	---	2,268	5,551
Totals	---	---	---	---	---	66,961	---	---	---	---	---	67,483	134,444
7-10am	8,137	55	335	3	316	8,846	10,344	30	154	15	769	11,312	20,158
10am-1pm	7,304	6	319	3	343	7,975	8,169	10	398	14	443	9,034	17,009
1-4pm	9,508	33	320	1	314	10,176	9,115	74	473	4	409	10,075	20,251
4-7pm	10,773	18	258	6	105	11,160	9,842	27	557	3	389	10,818	21,978
7am-7pm	35,722	112	1,232	13	1,078	38,157	37,470	141	1,582	36	2,010	41,239	79,396

Based on October 1996 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes Manhattan Bridge - 2003

	<i>Eastbound to Brooklyn</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	
12-1am	---	---	---	---	---	1,575	---	---	---	---	---	969	2,544
1-2am	---	---	---	---	---	978	---	---	---	---	---	663	1,641
2-3am	---	---	---	---	---	711	---	---	---	---	---	565	1,276
3-4am	---	---	---	---	---	598	---	---	---	---	---	549	1,147
4-5am	---	---	---	---	---	644	---	---	---	---	---	771	1,415
5-6am	---	---	---	---	---	706	---	---	---	---	---	1,329	2,035
6-7am	---	---	---	---	---	1,156	---	---	---	---	---	1,992	3,148
7-8am	665	54	134	389	131	1,373	1,479	95	215	444	394	2,627 **	4,000
8-9am	773	140	138	470	160	1,681	1,301	38	216	473	484	2,512	4,193 **
9-10am	539	85	164	490	187	1,465	952	33	158	578	453	2,174	3,639
10-11am	545	23	152	488	220	1,428	669	30	140	623	347	1,809	3,237
11-12am	583	25	152	498	240	1,498	685	29	151	540	348	1,753	3,251
12-1pm	551	21	105	466	321	1,464	779	37	198	503	202	1,719	3,183
1-2pm	603	28	218	514	374	1,737	666	35	140	455	169	1,465	3,202
2-3pm	698	20	231	470	357	1,776	763	26	107	378	305	1,579	3,355
3-4pm	916	71	290	507	392	2,176	820	43	180	290	247	1,580	3,756
4-5pm	1,188	59	273	467	550	2,537	847	23	99	258	219	1,446	3,983
5-6pm	1,331	44	255	408	552	2,590 **	970	37	158	203	175	1,543	4,133
6-7pm	1,356	41	350	367	371	2,485	1,094	23	126	140	146	1,529	4,014
7-8pm	---	---	---	---	---	2,176	---	---	---	---	---	1,383	3,559
8-9pm	---	---	---	---	---	2,004	---	---	---	---	---	1,321	3,325
9-10pm	---	---	---	---	---	1,803	---	---	---	---	---	1,363	3,166
10-11pm	---	---	---	---	---	1,812	---	---	---	---	---	1,507	3,319
11-12pm	---	---	---	---	---	1,787	---	---	---	---	---	1,459	3,246
Totals	---	---	---	---	---	38,160	---	---	---	---	---	35,607	73,767
7-10am	1,977	279	436	1,349	478	4,519	3,732	166	589	1,495	1,331	7,313	11,832
10am-1pm	1,679	69	409	1,452	781	4,390	2,133	96	489	1,666	897	5,281	9,671
1-4pm	2,217	119	739	1,491	1,123	5,689	2,249	104	427	1,123	721	4,624	10,313
4-7pm	3,875	144	878	1,242	1,473	7,612	2,911	83	383	601	540	4,518	12,130
7am-7pm	9,748	611	2,462	5,534	3,855	22,210	11,025	449	1,888	4,885	3,489	21,736	43,946

Based on October 1996 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes Queensboro Bridge - 2003

	<i>Eastbound to Queens</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	
12-1am	---	---	---	---	---	4,243	---	---	---	---	---	2,012	6,255
1-2am	---	---	---	---	---	2,690	---	---	---	---	---	1,396	4,086
2-3am	---	---	---	---	---	1,657	---	---	---	---	---	1,096	2,753
3-4am	---	---	---	---	---	1,301	---	---	---	---	---	1,284	2,585
4-5am	---	---	---	---	---	1,492	---	---	---	---	---	2,092	3,584
5-6am	---	---	---	---	---	2,207	---	---	---	---	---	4,219	6,426
6-7am	---	---	---	---	---	3,201	---	---	---	---	---	6,647	9,848
7-8am	2,650	123	259	107	177	3,316	5,413	113	300	302	776	6,904 **	10,220
8-9am	2,174	164	235	164	144	2,881	4,270	66	294	358	895	5,883	8,764
9-10am	1,843	171	210	224	182	2,630	3,513	58	356	296	698	4,921	7,551
10-11am	2,507	80	186	229	315	3,317	2,952	60	264	369	566	4,211	7,528
11-12am	2,622	78	288	235	460	3,683	2,898	88	306	302	455	4,049	7,732
12-1pm	2,885	90	208	201	480	3,864	3,095	48	245	226	331	3,945	7,809
1-2pm	2,808	68	343	309	534	4,062	3,286	102	253	257	288	4,186	8,248
2-3pm	3,417	70	209	381	505	4,582	3,419	72	256	204	456	4,407	8,989
3-4pm	4,404	144	163	426	580	5,717	3,818	43	287	153	323	4,624	10,341
4-5pm	4,847	175	185	433	623	6,263 **	3,832	37	225	127	234	4,455	10,718 **
5-6pm	4,739	203	186	333	551	6,012	4,208	35	163	59	166	4,631	10,643
6-7pm	4,525	171	250	106	376	5,428	3,845	57	238	74	184	4,398	9,826
7-8pm	---	---	---	---	---	4,851	---	---	---	---	---	4,182	9,033
8-9pm	---	---	---	---	---	4,871	---	---	---	---	---	3,564	8,435
9-10pm	---	---	---	---	---	4,624	---	---	---	---	---	3,455	8,079
10-11pm	---	---	---	---	---	4,544	---	---	---	---	---	3,391	7,935
11-12pm	---	---	---	---	---	4,677	---	---	---	---	---	2,899	7,576
Totals	---	---	---	---	---	92,113	---	---	---	---	---	92,851	184,964
7-10am	6,667	458	704	495	503	8,827	13,196	237	950	956	2,369	17,708	26,535
10am-1pm	8,014	248	682	665	1,255	10,864	8,945	196	815	897	1,352	12,205	23,069
1-4pm	10,629	282	715	1,116	1,619	14,361	10,523	217	796	614	1,067	13,217	27,578
4-7pm	14,111	549	621	872	1,550	17,703	11,885	129	626	260	584	13,484	31,187
7am-7pm	39,421	1,537	2,722	3,148	4,927	51,755	44,549	779	3,187	2,727	5,372	56,614	108,369

Based on October 1996 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes Williamsburg Bridge - 2003

	<i>Eastbound to Brooklyn</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Commercial Vans	Totals	
12-1am	---	---	---	---	---	1,874	---	---	---	---	---	1,170	3,044
1-2am	---	---	---	---	---	1,155	---	---	---	---	---	844	1,999
2-3am	---	---	---	---	---	768	---	---	---	---	---	672	1,440
3-4am	---	---	---	---	---	568	---	---	---	---	---	649	1,217
4-5am	---	---	---	---	---	612	---	---	---	---	---	992	1,604
5-6am	---	---	---	---	---	1,020	---	---	---	---	---	2,131	3,151
6-7am	---	---	---	---	---	1,649	---	---	---	---	---	2,910	4,559
7-8am	1,331	22	218	163	100	1,834	2,184	101	480	338	363	3,466 **	5,300
8-9am	1,343	118	234	194	148	2,037	2,087	44	528	308	451	3,418	5,455
9-10am	1,098	82	321	197	131	1,829	1,887	40	461	286	305	2,979	4,808
10-11am	1,095	42	261	405	75	1,878	1,715	33	463	277	261	2,749	4,627
11-12am	1,115	22	282	415	110	1,944	1,429	31	421	270	263	2,414	4,358
12-1pm	1,178	13	332	296	164	1,983	1,450	31	387	214	264	2,346	4,329
1-2pm	1,294	23	341	337	159	2,154	1,391	67	540	237	209	2,444	4,598
2-3pm	1,481	30	456	342	61	2,370	1,849	42	448	179	229	2,747	5,117
3-4pm	1,991	72	446	367	173	3,049	1,814	32	351	172	217	2,586	5,635
4-5pm	2,243	92	420	356	201	3,312 **	1,672	32	403	109	185	2,401	5,713 **
5-6pm	2,214	68	418	253	238	3,191	1,665	33	393	112	187	2,390	5,581
6-7pm	2,273	25	374	131	186	2,989	1,415	26	414	90	171	2,116	5,105
7-8pm	---	---	---	---	---	2,832	---	---	---	---	---	2,186	5,018
8-9pm	---	---	---	---	---	2,738	---	---	---	---	---	2,089	4,827
9-10pm	---	---	---	---	---	2,466	---	---	---	---	---	2,017	4,483
10-11pm	---	---	---	---	---	2,264	---	---	---	---	---	1,991	4,255
11-12pm	---	---	---	---	---	2,265	---	---	---	---	---	1,755	4,020
Totals	---	---	---	---	---	48,781	---	---	---	---	---	51,462	100,243
7-10am	3,772	222	773	554	379	5,700	6,158	185	1,469	932	1,119	9,863	15,563
10am-1pm	3,388	77	875	1,116	349	5,805	4,594	95	1,271	761	788	7,509	13,314
1-4pm	4,766	125	1,243	1,046	393	7,573	5,054	141	1,339	588	655	7,777	15,350
4-7pm	6,730	185	1,212	740	625	9,492	4,752	91	1,210	311	543	6,907	16,399
7am-7pm	18,656	609	4,103	3,456	1,746	28,570	20,558	512	5,289	2,592	3,105	32,056	60,626

Based on October 1996 Classification Survey Data

\*\* Peak Volumes

**Harlem River Bridges**  
**Average Daily Traffic Volumes**  
**1948 - 2003**

<i>Year</i>	<i>Alexander Hamilton</i>	<i>Broadway</i>	<i>Macombs Dam</i>	<i>Madison Avenue</i>	<i>Third Avenue</i>
1948		16,020	33,608	27,222	31,403
1949		17,369	23,854	17,363	20,024
1950		15,462	28,641	27,933	34,984
1951	<i>Bridge Opened Jan. 1963</i>	16,374	31,072	33,576	51,478
1952		17,412	36,100	27,468	34,023
1953		16,821	35,331	24,382	37,593
1954		15,958	27,911	23,408	33,667
1955		17,046	27,914	34,681	38,201
1956		17,960	32,761	46,591	42,735
1957		20,345	55,609	40,860	47,269
1958		22,132	50,227	33,393	61,367
1959		25,491	48,720	27,967	56,525
1960		23,025	50,865	22,541	68,079
1961		21,097	32,447	28,375	61,584
1962		19,170	39,580	25,400	53,580
1963		23,110	43,450	27,090	63,840
1964	87,840	25,020	31,050	31,170	63,250
1965	125,133	17,555	37,451	26,315	55,644
1966	104,559	22,438	39,922	28,865	70,938
1967	135,803	22,844	35,595	27,683	52,931
1968	92,771	23,621	33,875	27,658	41,243
1969	132,487	22,224	38,845	28,219	57,748
1970	141,609	23,115	46,523	24,941	48,110
1971	137,881	28,232	40,489	28,891	50,548
1972	142,139	25,178	39,702	26,923	47,454
1973	137,133	24,408	38,349	34,815	60,415
1974	144,909	21,825	40,934	30,425	54,770
1975	134,013	30,638	38,995	29,823	62,079
1976	137,141	26,453	36,065	27,838	54,957
1977	158,710	26,465	33,539	29,832	52,969
1978	151,342	25,145	35,764	34,938	54,177
1979	143,973	27,673	37,145	29,036	54,428
1980	152,852	29,838	37,464	27,476	54,152
1981	148,609	30,485	42,064	29,456	51,483
1982	156,038	30,846	45,178	30,485	60,236
1983	161,772	29,875	42,747	30,715	67,813
1984	164,734	28,338	46,870	33,101	56,706
1985	171,602	33,086	52,497	37,956	59,907
1986	175,635	32,314	50,602	39,809	64,404
1987	180,908	31,934	48,021	31,506	62,089
1988	172,970	33,047	43,318	31,321	62,379
1989	183,661	35,066	43,450	31,688	64,849
1990	192,848	41,705	41,113	32,458	63,516
1991	187,309	40,444	42,393	34,826	65,787
1992	176,279	35,184	42,022	32,907	66,967
1993	180,507	33,752	39,251	32,432	68,812
1994	178,522	32,833	39,876	22,923	66,104
1995	175,279	42,555	41,571	22,739	68,663
1996	176,856	40,040	40,031	17,948	67,206
1997	176,102	34,645	44,033	28,646	71,365
1998	176,632	35,770	42,027	32,922	70,757
1999	180,201	35,412	41,813	38,102	68,544
2000	177,899	37,990	21,008	47,583	73,121
2001	168,605	41,175	39,615	43,331	72,756
2002	168,079	38,287	18,878	49,487	58,949
2003	182,704	36,888	42,254	41,575	43,065

**Harlem River Bridges (cont'd)**  
**Average Daily Traffic Volumes**  
**1948 - 2003**

<b>Year</b>	<b>University Heights</b>	<b>Washington</b>	<b>Willis Avenue</b>	<b>145th Street</b>	<b>Totals</b>
1948	21,706	29,374	29,648	18,196	207,177
1949	14,098	32,122	42,772	25,908	193,510
1950	24,986	29,541	38,708	22,416	222,671
1951	25,270	28,599	35,958	26,872	249,199
1952	21,527	28,270	33,207	24,189	222,196
1953	29,240	37,298	38,579	29,385	248,629
1954	22,979	39,339	46,675	26,119	236,056
1955	18,151	33,988	44,809	35,449	250,239
1956	21,834	30,598	43,752	30,550	266,781
1957	34,077	38,861	51,395	28,114	316,530
1958	37,078	50,100	49,773	25,677	329,747
1959	33,580	51,652	58,705	39,709	342,349
1960	36,763	54,008	59,050	30,868	345,199
1961	43,749	61,542	50,902	33,767	333,463
1962	35,940	56,110	55,910	27,540	313,230
1963	26,030	32,760	65,290	27,520	309,090
1964	31,490	41,410	65,190	31,260	407,680
1965	23,458	35,560	53,219	26,924	401,259
1966	25,700	31,104	53,677	25,284	402,487
1967	26,990	33,921	69,609	22,368	427,744
1968	26,126	35,218	58,730	22,853	362,095
1969	29,941	19,136	60,192	24,200	412,992
1970	26,718	33,661	61,433	23,580	429,690
1971	29,622	38,522	53,609	24,401	432,195
1972	31,620	36,812	49,431	23,105	422,364
1973	33,503	46,079	51,537	23,431	449,670
1974	29,297	42,014	53,322	21,616	439,112
1975	29,111	41,522	52,984	21,189	440,354
1976	34,494	39,058	53,873	19,750	429,629
1977	29,128	38,185	52,484	20,888	442,200
1978	35,883	37,690	54,335	21,484	450,758
1979	31,796	37,348	44,851	21,566	427,816
1980	32,562	38,061	52,061	21,826	446,292
1981	34,454	38,061	52,561	21,150	448,323
1982	25,416	44,168	55,762	22,656	470,785
1983	32,233	42,186	60,296	23,516	491,153
1984	30,485	46,896	66,017	23,802	496,949
1985	37,553	51,302	65,638	28,722	538,263
1986	36,192	54,935	66,824	26,181	546,896
1987	37,223	46,094	67,558	24,895	530,228
1988	38,542	48,025	64,862	25,818	520,282
1989	42,246	49,092	66,012	23,317	539,381
1990	19,768	61,668	62,315	24,172	539,563
1991	18,220	57,526	60,415	26,448	533,368
1992	39,232	51,925	66,522	26,315	537,353
1993	38,895	52,795	70,472	25,390	542,306
1994	38,134	57,009	67,344	23,299	526,044
1995	21,238	56,372	67,716	25,749	521,882
1996	35,280	56,204	70,229	27,156	530,950
1997	39,639	54,708	73,461	24,151	546,750
1998	41,640	57,307	78,145	24,862	560,062
1999	42,287	58,907	71,555	26,361	563,182
2000	45,557	68,075	73,175	34,362	578,770
2001	46,381	57,443	72,901	26,552	568,759
2002	45,311	63,609	73,435	35,796	551,831
2003	50,126	63,154	66,710	23,034	549,510

## Hourly Vehicular Volumes Alexander Hamilton Bridge - 2003

	<i>Eastbound to Bronx</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	1,551	---	---	---	---	---	2,068	3,619
1-2am	---	---	---	---	---	1,404	---	---	---	---	---	1,406	2,810
2-3am	---	---	---	---	---	1,500	---	---	---	---	---	1,391	2,891
3-4am	---	---	---	---	---	1,715	---	---	---	---	---	1,493	3,208
	---	---	---	---	---	2,301	---	---	---	---	---	1,899	4,200
5-6am	---	---	---	---	---	3,692	---	---	---	---	---	3,358	7,050
6-7am	---	---	---	---	---	5,415	---	---	---	---	---	5,012	10,427
7-8am	4,322	14	250	826	125	5,537 **	4,260	10	91	453	224	5,038	10,575 **
8-9am	3,767	5	246	946	220	5,184	4,372	36	36	508	161	5,113 **	10,297
9-10am	3,673	5	235	1,203	132	5,248	3,382	48	28	742	197	4,397	9,645
10-11am	4,388	3	104	343	49	4,887	3,908	27	17	422	142	4,516	9,403
11-12am	3,479	11	250	774	128	4,642	3,262	14	21	1,017	289	4,603	9,245
12-1pm	3,971	0	112	448	49	4,580	3,593	10	9	502	127	4,241	8,821
1-2pm	3,465	8	165	826	82	4,546	3,656	13	26	950	248	4,893	9,439
2-3pm	3,683	6	196	764	108	4,757	3,639	20	45	976	196	4,876	9,633
3-4pm	4,084	7	82	319	89	4,581	4,033	22	16	474	87	4,632	9,213
4-5pm	3,782	5	142	473	108	4,510	3,590	4	41	906	219	4,760	9,270
5-6pm	4,078	5	114	384	95	4,676	3,766	2	31	839	164	4,802	9,478
6-7pm	3,919	9	205	449	79	4,661	3,761	3	22	456	131	4,373	9,034
7-8pm	---	---	---	---	---	4,185	---	---	---	---	---	4,477	8,662
8-9pm	---	---	---	---	---	3,814	---	---	---	---	---	4,083	7,897
9-10pm	---	---	---	---	---	3,489	---	---	---	---	---	3,602	7,091
10-11pm	---	---	---	---	---	2,957	---	---	---	---	---	3,181	6,138
11-12pm	---	---	---	---	---	2,012	---	---	---	---	---	2,646	4,658
Totals	---	---	---	---	---	91,844	---	---	---	---	---	90,860	182,704
7-10am	11,762	24	731	2,975	477	15,969	12,014	94	155	1,703	582	14,548	30,517
10am-1pm	11,838	14	466	1,565	226	14,109	10,763	51	47	1,941	558	13,360	27,469
1-4pm	11,232	21	443	1,909	279	13,884	11,328	55	87	2,400	531	14,401	28,285
4-7pm	11,779	19	461	1,306	282	13,847	11,117	9	94	2,201	514	13,935	27,782
7am-7pm	46,611	78	2,101	7,755	1,264	57,809	45,222	209	383	8,245	2,185	56,244	114,053

Based on 1989 Classification Survey Dat:

\*\* Peak Volumes

## Hourly Vehicular Volumes Broadway Bridge - 2003

	<i>Northbound to Bronx</i>						<i>Southbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	328	---	---	---	---	---	254	582
1-2am	---	---	---	---	---	196	---	---	---	---	---	155	351
2-3am	---	---	---	---	---	122	---	---	---	---	---	105	227
3-4am	---	---	---	---	---	72	---	---	---	---	---	82	154
4-5am	---	---	---	---	---	100	---	---	---	---	---	158	258
5-6am	---	---	---	---	---	197	---	---	---	---	---	361	558
6-7am	---	---	---	---	---	457	---	---	---	---	---	897	1,354
7-8am	577	32	17	58	24	708	1,462	67	46	33	48	1,656	2,364
8-9am	823	60	21	36	28	968	1,258	43	29	44	43	1,417	2,385
9-10am	620	21	3	25	55	724	905	35	26	53	41	1,060	1,784
10-11am	660	16	2	33	23	734	802	21	12	37	10	882	1,616
11-12am	614	19	8	25	38	704	745	25	25	53	54	902	1,606
12-1pm	735	21	5	21	23	805	883	22	4	18	12	939	1,744
1-2pm	783	24	3	27	28	865	920	26	10	21	17	994	1,859
2-3pm	702	20	1	30	60	813	1,050	33	25	37	19	1,164	1,977
3-4pm	1,031	25	9	13	35	1,113	1,298	37	15	21	12	1,383	2,496
4-5pm	1,194	42	29	25	58	1,348	1,409	37	26	44	43	1,559	2,907
5-6pm	1,426	33	10	14	74	1,557 **	1,525	39	40	24	31	1,659 **	3,216 **
6-7pm	1,140	22	0	13	112	1,287	1,240	33	30	21	9	1,333	2,620
7-8pm	---	---	---	---	---	1,047	---	---	---	---	---	1,028	2,075
8-9pm	---	---	---	---	---	826	---	---	---	---	---	843	1,669
9-10pm	---	---	---	---	---	554	---	---	---	---	---	691	1,245
10-11pm	---	---	---	---	---	511	---	---	---	---	---	492	1,003
11-12pm	---	---	---	---	---	463	---	---	---	---	---	375	838
Totals	---	---	---	---	---	16,499	---	---	---	---	---	20,389	36,888
7-10am	2,020	113	41	119	107	2,400	3,625	145	101	130	132	4,133	6,533
10am-1pm	2,009	56	15	79	84	2,243	2,430	68	41	108	76	2,723	4,966
1-4pm	2,516	69	13	70	123	2,791	3,268	96	50	79	48	3,541	6,332
4-7pm	3,760	97	39	52	244	4,192	4,174	109	96	89	83	4,551	8,743
7am-7pm	10,305	335	108	320	558	11,626	13,497	418	288	406	339	14,948	26,574

Based on 1989 Classification Survey Data:

\*\* Peak Volumes

## Hourly Vehicular Volumes Macombs Dam Bridge - 2003

	<i>Eastbound to Bronx</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	439	---	---	---	---	---	430	869
1-2am	---	---	---	---	---	222	---	---	---	---	---	231	453
2-3am	---	---	---	---	---	195	---	---	---	---	---	189	384
3-4am	---	---	---	---	---	162	---	---	---	---	---	151	313
4-5am	---	---	---	---	---	179	---	---	---	---	---	138	317
5-6am	---	---	---	---	---	256	---	---	---	---	---	347	603
6-7am	---	---	---	---	---	551	---	---	---	---	---	915	1,466
7-8am	776	32	20	48	71	947	1,183	38	6	84	225	1,536	2,483
8-9am	950	13	17	58	97	1,135	1,268	11	2	100	179	1,560	2,695
9-10am	761	17	12	48	51	889	999	21	14	116	189	1,339	2,228
10-11am	710	7	2	30	37	786	903	8	7	39	54	1,011	1,797
11-12am	665	8	11	55	65	804	782	6	12	69	77	946	1,750
12-1pm	813	10	6	27	36	892	902	17	3	18	39	979	1,871
1-2pm	907	3	6	28	25	969	1,005	20	8	22	81	1,136	2,105
2-3pm	885	14	22	70	76	1,067	1,204	26	18	59	104	1,411	2,478
3-4pm	1,073	22	10	58	68	1,231	1,383	42	12	26	52	1,515	2,746
4-5pm	1,042	9	34	89	169	1,343	1,350	12	37	49	91	1,539	2,882
5-6pm	1,173	10	16	42	155	1,396 **	1,433	16	12	23	78	1,562 **	2,958 **
6-7pm	1,177	3	7	28	47	1,262	1,153	8	13	26	88	1,288	2,550
7-8pm	---	---	---	---	---	1,147	---	---	---	---	---	1,242	2,389
8-9pm	---	---	---	---	---	1,046	---	---	---	---	---	1,108	2,154
9-10pm	---	---	---	---	---	922	---	---	---	---	---	879	1,801
10-11pm	---	---	---	---	---	776	---	---	---	---	---	820	1,596
11-12pm	---	---	---	---	---	665	---	---	---	---	---	701	1,366
Totals	---	---	---	---	---	19,281	---	---	---	---	---	22,973	42,254
7-10am	2,487	62	49	154	219	2,971	3,450	70	22	300	593	4,435	7,406
10am-1pm	2,188	25	19	112	138	2,482	2,587	31	22	126	170	2,936	5,418
1-4pm	2,865	39	38	156	169	3,267	3,592	88	38	107	237	4,062	7,329
4-7pm	3,392	22	57	159	371	4,001	3,936	36	62	98	257	4,389	8,390
7am-7pm	10,932	148	163	581	897	12,721	13,565	225	144	631	1,257	15,822	28,543

Based on 1989 Classification Survey Dat:

\*\* Peak Volumes

## Hourly Vehicular Volumes Madison Avenue Bridge - 2003

	<i>Eastbound to Bronx</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	395	---	---	---	---	---	354	749
1-2am	---	---	---	---	---	228	---	---	---	---	---	221	449
2-3am	---	---	---	---	---	144	---	---	---	---	---	178	322
3-4am	---	---	---	---	---	117	---	---	---	---	---	138	255
4-5am	---	---	---	---	---	122	---	---	---	---	---	217	339
5-6am	---	---	---	---	---	194	---	---	---	---	---	577	771
6-7am	---	---	---	---	---	519	---	---	---	---	---	1,454	1,973
7-8am	718	36	79	47	42	922	1,632	130	18	66	147	1,993	** 2,915
8-9am	765	52	68	40	50	975	1,540	128	36	81	158	1,943	** 2,918
9-10am	543	48	70	58	36	755	1,022	73	41	177	135	1,448	2,203
10-11am	520	24	31	23	29	627	943	79	26	26	85	1,159	1,786
11-12am	419	17	55	68	62	621	859	33	44	85	108	1,129	1,750
12-1pm	591	19	23	28	30	691	1,008	45	34	41	73	1,201	1,892
1-2pm	643	22	24	33	36	758	1,064	72	37	20	57	1,250	2,008
2-3pm	624	24	55	76	77	856	1,096	92	38	41	105	1,372	2,228
3-4pm	961	20	30	54	50	1,115	1,239	86	25	33	56	1,439	2,554
4-5pm	974	24	110	91	108	1,307	1,346	83	36	32	59	1,556	2,863
5-6pm	1,070	29	92	75	71	1,337	** 1,335	60	42	33	51	1,521	2,858
6-7pm	938	55	37	48	63	1,141	1,309	52	30	26	28	1,445	2,586
7-8pm	---	---	---	---	---	984	---	---	---	---	---	1,196	2,180
8-9pm	---	---	---	---	---	934	---	---	---	---	---	940	1,874
9-10pm	---	---	---	---	---	734	---	---	---	---	---	788	1,522
10-11pm	---	---	---	---	---	627	---	---	---	---	---	761	1,388
11-12pm	---	---	---	---	---	558	---	---	---	---	---	634	1,192
Totals	---	---	---	---	---	16,661	---	---	---	---	---	24,914	41,575
7-10am	2,026	136	217	145	128	2,652	4,194	331	95	324	440	5,384	8,036
10am-1pm	1,530	60	109	119	121	1,939	2,810	157	104	152	266	3,489	5,428
1-4pm	2,228	66	109	163	163	2,729	3,399	250	100	94	218	4,061	6,790
4-7pm	2,982	108	239	214	242	3,785	3,990	195	108	91	138	4,522	8,307
7am-7pm	8,766	370	674	641	654	11,105	14,393	933	407	661	1,062	17,456	28,561

Based on 1989 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes Third Avenue Bridge - 2003

	<u>Northbound to Bronx</u>						<u>Southbound to Manhattan</u>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am							---	---	---	---	---	945	945
1-2am							---	---	---	---	---	676	676
2-3am							---	---	---	---	---	531	531
3-4am							---	---	---	---	---	565	565
4-5am							---	---	---	---	---	960	960
5-6am							---	---	---	---	---	1,871	1,871
6-7am							---	---	---	---	---	2,375	2,375
7-8am							1,492	31	231	311	257	2,322	2,322
8-9am							1,342	19	133	271	283	2,048	2,048
9-10am							1,412	23	186	275	218	2,114	2,114
10-11am							1,649	20	109	106	87	1,971	1,971
11-12am							1,306	36	212	250	155	1,959	1,959
12-1pm							1,728	52	89	100	77	2,046	2,046
1-2pm							1,550	71	135	118	202	2,076	2,076
2-3pm							1,511	75	188	185	217	2,176	2,176
3-4pm							1,951	58	67	54	49	2,179	2,179
4-5pm							1,915	44	103	99	114	2,275	2,275
5-6pm							2,126	42	88	74	63	2,393 **	2,393 **
6-7pm							2,121	43	86	58	63	2,371	2,371
7-8pm							---	---	---	---	---	2,275	2,275
8-9pm							---	---	---	---	---	1,928	1,928
9-10pm							---	---	---	---	---	1,888	1,888
10-11pm							---	---	---	---	---	1,654	1,654
11-12pm							---	---	---	---	---	1,467	1,467
Totals							---	---	---	---	---	43,065	43,065
7-10am							4,246	73	550	857	758	6,484	6,484
10am-1pm							4,683	108	410	456	319	5,976	5,976
1-4pm							5,012	204	390	357	468	6,431	6,431
4-7pm							6,162	129	277	231	240	7,039	7,039
7am-7pm							20,103	514	1,627	1,901	1,785	25,930	25,930

Based on 1989 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes University Heights Bridge - 2003

	<i>Eastbound to Bronx</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	620	---	---	---	---	---	571	1,191
1-2am	---	---	---	---	---	409	---	---	---	---	---	312	721
2-3am	---	---	---	---	---	296	---	---	---	---	---	244	540
3-4am	---	---	---	---	---	163	---	---	---	---	---	199	362
4-5am	---	---	---	---	---	206	---	---	---	---	---	346	552
5-6am	---	---	---	---	---	292	---	---	---	---	---	792	1,084
6-7am	---	---	---	---	---	662	---	---	---	---	---	1,424	2,086
7-8am	772	54	99	48	50	1,023	1,659	27	43	48	136	1,913	2,936
8-9am	892	10	94	67	86	1,149	1,684	17	36	68	137	1,942	3,091
9-10am	695	9	69	79	80	932	1,160	15	19	59	117	1,370	2,302
10-11am	847	4	44	42	34	971	1,242	5	5	34	74	1,360	2,331
11-12am	709	8	74	86	43	920	1,157	9	16	73	104	1,359	2,279
12-1pm	855	14	26	29	24	948	1,333	3	7	37	64	1,444	2,392
1-2pm	1,024	51	50	39	31	1,195	1,514	5	6	28	51	1,604	2,799
2-3pm	980	15	83	61	58	1,197	1,498	14	29	67	142	1,750	2,947
3-4pm	1,138	19	26	33	32	1,248	1,676	59	8	36	74	1,853	3,101
4-5pm	993	5	61	46	35	1,140	1,704	26	24	35	126	1,915	3,055
5-6pm	1,090	0	69	33	50	1,242	1,666	1	20	18	74	1,779	3,021
6-7pm	1,093	0	68	23	69	1,253	1,545	9	13	12	72	1,651	2,904
7-8pm	---	---	---	---	---	1,219	---	---	---	---	---	1,492	2,711
8-9pm	---	---	---	---	---	1,147	---	---	---	---	---	1,258	2,405
9-10pm	---	---	---	---	---	1,020	---	---	---	---	---	1,026	2,046
10-11pm	---	---	---	---	---	870	---	---	---	---	---	926	1,796
11-12pm	---	---	---	---	---	744	---	---	---	---	---	730	1,474
Totals	---	---	---	---	---	20,866	---	---	---	---	---	29,260	50,126
7-10am	2,359	73	262	194	216	3,104	4,503	59	98	175	390	5,225	8,329
10am-1pm	2,411	26	144	157	101	2,839	3,732	17	28	144	242	4,163	7,002
1-4pm	3,142	85	159	133	121	3,640	4,688	78	43	131	267	5,207	8,847
4-7pm	3,176	5	198	102	154	3,635	4,915	36	57	65	272	5,345	8,980
7am-7pm	11,088	189	763	586	592	13,218	17,838	190	226	515	1,171	19,940	33,158

Based on 1989 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes Washington Bridge - 2003

	<i>Eastbound to Bronx</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	1,111	---	---	---	---	---	458	1,569
1-2am	---	---	---	---	---	665	---	---	---	---	---	311	976
2-3am	---	---	---	---	---	450	---	---	---	---	---	248	698
3-4am	---	---	---	---	---	360	---	---	---	---	---	213	573
4-5am	---	---	---	---	---	382	---	---	---	---	---	300	682
5-6am	---	---	---	---	---	469	---	---	---	---	---	576	1,045
6-7am	---	---	---	---	---	1,183	---	---	---	---	---	1,131	2,314
7-8am	1,904	73	41	66	140	2,224	1,297	61	116	38	26	1,538	3,762
8-9am	1,967	60	36	106	180	2,349	1,303	71	79	59	32	1,544	3,893
9-10am	1,517	50	32	120	114	1,833	1,003	34	51	39	27	1,154	2,987
10-11am	1,355	40	9	38	50	1,492	990	35	11	27	22	1,085	2,577
11-12am	1,284	31	18	71	81	1,485	1,075	51	32	34	41	1,233	2,718
12-1pm	1,333	45	20	27	65	1,490	1,194	31	11	23	17	1,276	2,766
1-2pm	1,486	36	6	38	57	1,623	1,294	33	19	21	15	1,382	3,005
2-3pm	1,558	38	28	76	90	1,790	1,400	66	49	59	47	1,621	3,411
3-4pm	1,980	46	13	38	99	2,176	1,624	50	50	50	24	1,798	3,974
4-5pm	2,101	50	63	77	234	2,525	1,616	46	82	100	55	1,899	4,424
5-6pm	2,404	45	67	47	127	2,690 **	1,749	35	53	40	50	1,927 **	4,617 **
6-7pm	1,982	26	35	27	88	2,158	1,620	44	65	22	36	1,787	3,945
7-8pm	---	---	---	---	---	1,947	---	---	---	---	---	1,580	3,527
8-9pm	---	---	---	---	---	1,799	---	---	---	---	---	1,293	3,092
9-10pm	---	---	---	---	---	1,412	---	---	---	---	---	1,046	2,458
10-11pm	---	---	---	---	---	1,167	---	---	---	---	---	915	2,082
11-12pm	---	---	---	---	---	1,339	---	---	---	---	---	720	2,059
Totals	---	---	---	---	---	36,119	---	---	---	---	---	27,035	63,154
7-10am	5,388	183	109	292	434	6,406	3,603	166	246	136	85	4,236	10,642
10am-1pm	3,972	116	47	136	196	4,467	3,259	117	54	84	80	3,594	8,061
1-4pm	5,024	120	47	152	246	5,589	4,318	149	118	130	86	4,801	10,390
4-7pm	6,487	121	165	151	449	7,373	4,985	125	200	162	141	5,613	12,986
7am-7pm	20,871	540	368	731	1,325	23,835	16,165	557	618	512	392	18,244	42,079

Based on 1989 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes Willis Avenue Bridge - 2003

	<b>Northbound to Bronx</b>						<b>Southbound to Manhattan</b>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Trucks	Commercial Vans	Totals	Autos	Buses	Commuter Vans	Trucks	Commercial Vans	Totals	
12-1am	---	---	---	---	---	2,160						0	2,160
1-2am	---	---	---	---	---	1,181						0	1,181
2-3am	---	---	---	---	---	779						0	779
3-4am	---	---	---	---	---	669						0	669
4-5am	---	---	---	---	---	785						0	785
5-6am	---	---	---	---	---	1,448						0	1,448
6-7am	---	---	---	---	---	2,454	758	0	0	0	0	758	3,212
7-8am	2,430	72	113	141	98	2,854	734	0	0	0	0	734	3,588
8-9am	2,290	97	85	165	201	2,838	759	0	0	0	0	759 **	3,597
9-10am	1,982	116	97	237	219	2,651	621	0	0	0	0	621	3,272
10-11am	2,181	51	70	164	154	2,620						0	2,620
11-12am	2,034	36	120	292	270	2,752						0	2,752
12-1pm	2,467	42	52	152	103	2,816						0	2,816
1-2pm	2,699	25	41	113	143	3,021						0	3,021
2-3pm	2,542	31	124	365	369	3,431						0	3,431
3-4pm	3,493	63	60	168	163	3,947						0	3,947
4-5pm	3,131	36	120	268	421	3,976						0	3,976
5-6pm	3,283	58	109	183	404	4,037 **						0	4,037 **
6-7pm	3,326	32	101	117	225	3,801						0	3,801
7-8pm	---	---	---	---	---	3,772						0	3,772
8-9pm	---	---	---	---	---	3,390						0	3,390
9-10pm	---	---	---	---	---	3,082						0	3,082
10-11pm	---	---	---	---	---	2,827						0	2,827
11-12pm	---	---	---	---	---	2,547						0	2,547
Totals	---	---	---	---	---	63,838						2,872	66,710
7-10am	6,702	285	295	543	518	8,343	2,114	0	0	0	0	2,114	10,457
10am-1pm	6,682	129	242	608	527	8,188	0	0	0	0	0	0	8,188
1-4pm	8,734	119	225	646	675	10,399	0	0	0	0	0	0	10,399
4-7pm	9,740	126	330	568	1,050	11,814	0	0	0	0	0	0	11,814
7am-7pm	31,858	659	1,092	2,365	2,770	38,744	2,114	0	0	0	0	2,114	40,858

*This bridge is normally 1-way northbound to The Bronx.*

*In 2003, one lane was reversed to southbound 6-10am weekdays (for passenger cars only) in order to compensate for reconstruction lane closures on the Third Avenue Bridge*

Based on 1989 Classification Survey Data

\*\* Peak Volumes

## Hourly Vehicular Volumes 145th Street Bridge - 2003

	<i>Eastbound to Bronx</i>						<i>Westbound to Manhattan</i>						<b>2-Way Totals</b>
	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	Autos	Buses	Commuter Vans	Commercial Trucks	Vans	Totals	
12-1am	---	---	---	---	---	319	---	---	---	---	---	256	575
1-2am	---	---	---	---	---	210	---	---	---	---	---	168	378
2-3am	---	---	---	---	---	212	---	---	---	---	---	163	375
3-4am	---	---	---	---	---	171	---	---	---	---	---	141	312
4-5am	---	---	---	---	---	149	---	---	---	---	---	166	315
5-6am	---	---	---	---	---	128	---	---	---	---	---	177	305
6-7am	---	---	---	---	---	223	---	---	---	---	---	498	721
7-8am	370	18	24	24	6	442	894	41	18	39	35	1,027 **	1,469
8-9am	567	20	35	37	22	681	812	28	32	27	50	949	1,630 **
9-10am	420	9	28	45	18	520	510	17	30	24	54	635	1,155
10-11am	484	8	13	22	23	550	392	13	27	20	39	491	1,041
11-12am	429	14	26	59	37	565	386	10	39	40	46	521	1,086
12-1pm	535	12	16	38	16	617	532	10	10	8	13	573	1,190
1-2pm	521	11	29	27	15	603	556	28	10	14	8	616	1,219
2-3pm	463	14	25	79	34	615	508	19	24	23	34	608	1,223
3-4pm	669	17	18	33	23	760	640	25	7	6	9	687	1,447
4-5pm	640	10	42	71	40	803	622	13	12	7	17	671	1,474
5-6pm	668	8	38	55	50	819 **	668	15	12	8	11	714	1,533
6-7pm	582	18	20	16	32	668	586	19	5	3	9	622	1,290
7-8pm	---	---	---	---	---	601	---	---	---	---	---	552	1,153
8-9pm	---	---	---	---	---	566	---	---	---	---	---	436	1,002
9-10pm	---	---	---	---	---	482	---	---	---	---	---	373	855
10-11pm	---	---	---	---	---	388	---	---	---	---	---	310	698
11-12pm	---	---	---	---	---	326	---	---	---	---	---	262	588
Totals	---	---	---	---	---	11,418	---	---	---	---	---	11,616	23,034
7-10am	1,357	47	87	106	46	1,643	2,216	86	80	90	139	2,611	4,254
10am-1pm	1,448	34	55	119	76	1,732	1,310	33	76	68	98	1,585	3,317
1-4pm	1,653	42	72	139	72	1,978	1,704	72	41	43	51	1,911	3,889
4-7pm	1,890	36	100	142	122	2,290	1,876	47	29	18	37	2,007	4,297
7am-7pm	6,348	159	314	506	316	7,643	7,106	238	226	219	325	8,114	15,757

Based on 1989 Classification Survey Data

\*\* Peak Volumes

**Manhattan MTABT Facilities**  
**Average Daily Traffic Volumes**  
**1948 - 2003**

<b>Year</b>	<b>Brooklyn- Battery Tunnel</b>	<b>Henry Hudson Bridge</b>	<b>Queens- Midtown Tunnel</b>	<b>Triborough Bridge Manh. Plz.</b>	<b>Manhattan Totals</b>
1948	<i>Opened</i>	40,050	26,462	26,465	92,977
1949	<i>05/25/1950</i>	47,472	30,045	32,554	110,071
1950	37,258	53,559	34,044	36,995	161,856
1951	41,253	57,700	36,680	44,639	180,272
1952	45,366	61,592	38,866	48,503	194,327
1953	47,999	65,432	38,509	48,595	200,535
1954	45,120	69,025	38,185	52,286	204,616
1955	45,843	71,240	39,839	59,913	216,835
1956	48,054	69,477	49,544	64,460	231,535
1957	54,490	62,865	54,311	64,677	236,343
1958	53,789	57,321	58,321	62,982	232,413
1959	49,468	56,529	61,115	64,389	231,501
1960	48,970	56,675	62,008	63,115	230,768
1961	48,197	57,140	62,301	59,603	227,241
1962	48,173	59,548	65,038	60,251	233,010
1963	48,271	52,803	63,038	60,988	225,100
1964	51,893	50,768	67,713	66,139	236,513
1965	56,455	45,353	69,386	69,755	240,949
1966	57,674	44,043	69,850	71,540	243,107
1967	57,611	43,409	69,416	73,602	244,038
1968	60,652	44,908	66,432	75,932	247,924
1969	62,116	45,382	68,884	78,481	254,863
1970	62,042	46,720	77,180	85,121	271,063
1971	64,032	50,541	81,747	90,372	286,692
1972	52,065	45,818	74,936	80,052	252,871
1973	49,916	41,871	74,214	85,592	251,593
1974	46,620	38,331	75,219	82,676	242,846
1975	45,636	30,603	65,315	72,566	214,120
1976	52,444	30,557	65,881	68,325	217,207
1977	53,500	31,840	71,150	73,276	229,766
1978	58,252	33,605	72,696	76,572	241,125
1979	60,445	33,387	69,827	87,885	251,544
1980	62,386	31,817	73,216	88,439	255,858
1981	58,657	36,625	81,211	93,361	269,854
1982	56,189	30,923	78,229	88,158	253,499
1983	61,130	31,279	78,134	92,967	263,510
1984	58,032	34,898	74,808	95,247	262,985
1985	63,469	41,680	76,065	94,644	275,858
1986	60,778	49,005	71,478	93,432	274,693
1987	63,256	52,778	77,813	95,795	289,642
1988	62,959	54,910	76,243	99,438	293,550
1989	59,254	50,556	72,828	92,720	275,358
1990	60,512	57,528	71,186	99,840	289,066
1991	63,883	56,279	80,616	94,487	295,265
1992	62,510	58,660	81,835	97,198	300,203
1993	57,561	54,650	77,288	92,660	282,159
1994	57,013	58,291	68,511	79,536	263,351
1995	61,097	62,899	73,882	95,696	293,574
1996	57,091	58,759	72,285	92,981	281,116
1997	54,690	59,660	78,023	91,313	283,686
1998	61,091	59,339	79,697	93,863	293,990
1999	63,307	61,165	80,941	98,553	303,966
2000	63,242	66,304	80,879	103,079	313,504
2001	13,762	69,087	72,864	102,224	257,937
2002	56,976	70,731	82,834	94,759	305,300
2003	56,271	72,209	85,377	93,177	307,034

MTABT Toll Increases 1/72, 9/75, 5/80, 4/82, 1/84, 1/86, 2/87, 7/89, 1/93, 3/96, & 5/03.

## Hourly Vehicular Volumes

### Metropolitan Transportation Authority Bridges & Tunnels 2003

	<i>Brooklyn-Battery Tunnel</i>		<i>Henry Hudson Bridge</i>		<i>Queens-Midtown Tunnel</i>		<i>Triborough Bridge (Mahattan Plaza)</i>		<i>Totals</i>	
	<i>N/B</i>	<i>S/B</i>	<i>S/B</i>	<i>N/B</i>	<i>W/B</i>	<i>E/B</i>	<i>W/B</i>	<i>E/B</i>	<i>Entering Manhattan</i>	<i>Leaving Manhattan</i>
12-1am	230	588	173	604	384	870	489	560	1,276	2,622
1-2am	115	205	90	246	178	421	205	276	588	1,148
2-3am	80	118	56	144	118	245	113	158	367	665
3-4am	100	67	60	85	133	176	124	143	417	471
4-5am	190	77	131	98	259	265	220	360	800	800
5-6am	801	112	527	150	925	588	926	1,041	3,179	1,891
6-7am	2,160	344	2389	639	2297	1,141	3,112	1,851	9,958	3,975
7-8am	3,157	609	3527	1,436	3606	1,289	4,041 **	2,301	14,331	5,635
8-9am	3,304 **	745	3544 **	1,774	4203 **	1,259	3,958	2,313	15,009 **	6,091
9-10am	2,769	768	2919	1,307	4006	1,209	3,313	2,269	13,007	5,553
10-11am	1,965	761	2163	1,079	3101	1,521	2,955	1,861	10,184	5,222
11-12am	1,558	865	1894	1,146	2777	1,622	2,482	1,911	8,711	5,544
12-1pm	1,451	992	1724	1,213	2478	1,824	2,373	1,999	8,026	6,028
1-2pm	1,432	1107	1657	1,400	2329	2,079	2,358	2,179	7,776	6,765
2-3pm	1,572	1367	1898	1,856	2424	2,501	2,661	2,605	8,555	8,329
3-4pm	1,737	1893	2447	2,317	2687	2,775	3,001	3,061	9,872	10,046
4-5pm	1,599	2406	2627	2,694	2778	2,931 **	3,081	3,195 **	10,085	11,226
5-6pm	1,718	2518 **	2876	3,150 **	3081	2,865	3,349	2,973	11,024	11,506 **
6-7pm	1,464	2358	2797	3,086	2681	2,761	3,159	2,761	10,101	10,966
7-8pm	1,226	1939	1963	2,590	2061	2,407	2,546	2,450	7,796	9,386
8-9pm	849	1646	1132	1,953	1557	2,265	1,929	1,971	5,467	7,835
9-10pm	738	1350	925	1,908	1345	2,079	1,809	1,834	4,817	7,171
10-11pm	677	1145	627	1,672	1052	1,869	1,422	1,522	3,778	6,208
11-12pm	502	897	363	1,153	720	1,235	1,000	957	2,585	4,242
Totals	31,394	24,877	38,509	33,700	47,180	38,197	50,626	42,551	167,709	139,325
7-10am	9,230	2,122	9,990	4,517	11,815	3,757	11,312	6,883	42,347	17,279
10am-1pm	4,974	2,618	5,781	3,438	8,356	4,967	7,810	5,771	26,921	16,794
1-4pm	4,741	4,367	6,002	5,573	7,440	7,355	8,020	7,845	26,203	25,140
4-7pm	4,781	7,282	8,300	8,930	8,540	8,557	9,589	8,929	31,210	33,698
7am-7pm	23,726	16,389	30,073	22,458	36,151	24,636	36,731	29,428	126,681	92,911

\*\* Peak Volumes

**PANYNJ Manhattan - New Jersey Facilities**  
**Average Daily Traffic Volumes**  
**1948 - 2003**

<b>Year</b>	<b>George Washington Bridge</b>	<b>Holland Tunnel</b>	<b>Lincoln Tunnel</b>	<b>Totals</b>
1948	42,306	42,623	30,856	115,785
1949	49,261	45,167	35,515	129,943
1950	54,437	49,660	42,556	146,653
1951	64,516	53,792	47,842	166,150
1952	76,446	51,317	53,490	181,253
1953	84,398	53,270	56,909	194,577
1954	90,306	54,560	57,528	202,394
1955	98,013	55,445	58,468	211,926
1956	97,059	56,961	59,068	213,088
1957	98,110	56,801	63,712	218,623
1958	97,435	55,881	68,178	221,494
1959	105,334	57,926	73,761	237,021
1960	106,245	57,678	75,697	239,620
1961	104,107	56,277	76,449	236,833
1962	111,090	58,518	81,038	250,646
1963	127,452	58,814	79,337	265,603
1964	143,193	59,702	82,929	285,824
1965	155,967	55,060	82,312	293,339
1966	167,304	55,559	81,118	303,981
1967	173,093	54,181	80,879	308,153
1968	182,934	53,962	83,396	320,292
1969	189,817	54,438	84,868	329,123
1970	194,910	58,574	94,354	347,838
1971	210,749	57,968	93,346	362,063
1972	221,172	61,485	95,963	378,620
1973	232,686	64,731	99,786	397,203
1974	211,955	64,765	99,827	376,547
1975	215,927	62,381	96,399	374,707
1976	215,136	64,663	101,451	381,250
1977	222,897	63,015	99,101	385,013
1978	229,666	66,405	103,441	399,512
1979	232,739	61,403	99,582	393,724
1980	235,615	64,417	104,702	404,734
1981	250,804	68,750	107,827	427,381
1982	249,294	73,997	110,453	433,744
1983	254,728	76,226	110,210	441,164
1984	258,723	71,819	123,233	453,775
1985	275,934	76,121	116,397	468,452
1986	286,398	77,300	122,053	485,751
1987	288,642	73,655	124,342	486,639
1988	284,984	84,626	120,569	490,179
1989	281,812	84,429	121,452	487,693
1990	272,556	87,976	121,711	482,243
1991	262,491	87,502	117,508	467,501
1992	268,007	90,206	118,659	476,872
1993	260,732	92,685	119,652	473,069
1994	259,863	94,637	119,299	473,799
1995	266,029	96,310	119,759	482,098
1996	275,469	96,798	120,927	493,194
1997	282,293	100,986	121,509	504,788
1998	297,188	100,872	124,452	522,512
1999	317,640	103,020	128,692	549,352
2000	317,618	101,137	129,710	548,465
2001	309,310	43,377	106,257	458,944
2002	310,771	92,557	129,511	532,839
2003	319,029	101,097	127,323	547,449

PANYNJ one-way tolls initiated 8/12/1970.

PANYNJ toll increases May 1975, January 1984, April, 1987, April 1991, March 2001.

## Hourly Vehicular Volumes

### Port Authority of New York & New Jersey

### 2003

	<b>George Washington Bridge</b>		<b>Holland Tunnel</b>		<b>Lincoln Tunnel</b>		<b>Totals</b>	
	<i>E/B</i>	<i>W/B</i>	<i>E/B</i>	<i>W/B</i>	<i>E/B</i>	<i>W/B</i>	<b>Entering Manhattan</b>	<b>Leaving Manhattan</b>
12-1am	1,874	3,955	760	1,410	1,002	1,713	3,636	7,078
1-2am	1,277	2,408	513	1,090	584	978	2,374	4,476
2-3am	1,129	1,788	383	728	431	569	1,943	3,085
3-4am	1,274	1,657	382	597	452	483	2,108	2,737
4-5am	2,035	2,001	616	699	779	591	3,430	3,291
5-6am	5,581	3,750	2,324	1,249	2,431	994	10,336	5,993
6-7am	10,958 **	6,981	2,833	2,207	5,227 **	1,670	19,018 **	10,858
7-8am	10,703	9,023	2,871 **	2,931	4,847	2,249	18,421	14,203
8-9am	9,582	8,937	2,631	2,750	4,660	2,439	16,873	14,126
9-10am	9,040	9,420	2,582	2,141	4,680	2,251	16,302	13,812
10-11am	7,828	7,677	2,728	2,290	3,850	2,181	14,406	12,148
11-12am	6,866	8,101	2,327	2,149	3,251	2,353	12,444	12,603
12-1pm	6,544	7,300	2,116	2,238	2,827	2,790	11,487	12,328
1-2pm	6,540	7,316	2,103	2,545	2,726	3,344	11,369	13,205
2-3pm	7,055	8,373	2,279	2,972	2,843	4,307	12,177	15,652
3-4pm	8,041	9,979	2,530	3,029	3,048	4,458	13,619	17,466
4-5pm	8,963	11,046 **	2,769	3,188 **	2,683	5,095 **	14,415	19,329 **
5-6pm	9,527	10,633	2,747	3,185	2,062	4,052	14,336	17,870
6-7pm	9,404	10,681	2,781	3,093	2,399	4,345	14,584	18,119
7-8pm	7,711	9,721	2,639	3,164	2,780	4,843	13,130	17,728
8-9pm	5,782	9,162	2,153	2,761	2,359	3,751	10,294	15,674
9-10pm	5,055	7,080	1,922	2,579	2,169	3,295	9,146	12,954
10-11pm	4,319	6,406	1,524	2,380	2,190	3,234	8,033	12,020
11-12pm	3,145	5,401	1,214	1,995	1,877	3,181	6,236	10,577
<b>Totals</b>	<b>150,233</b>	<b>168,796</b>	<b>47,727</b>	<b>53,370</b>	<b>62,157</b>	<b>65,166</b>	<b>260,117</b>	<b>287,332</b>
7-10am	29,325	27,380	8,084	7,822	14,187	6,939	51,596	42,141
10am-1pm	21,238	23,078	7,171	6,677	9,928	7,324	38,337	37,079
1-4pm	21,636	25,668	6,912	8,546	8,617	12,109	37,165	46,323
4-7pm	27,894	32,360	8,297	9,466	7,144	13,492	43,335	55,318
7am-7pm	100,093	108,486	30,464	32,511	39,876	39,864	170,433	180,861

\*\* Peak Volumes